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NATIONAL PETROLEUM NEWS

Vol. XVI CLEVELAND OHIO, October 1, 1924 No. 40

October Looks Good For Heavy Oils

Prospect Is That All Products Heavier Than Gasoline Will Find Strong Market This Month; Course Of Production During October Is Rather Uncertain, Although Declining Now

Mid-Continent Market

HEAVY oils bid fair to hold the center of interest in the Mid-Continent refinery market during October as they have in September. Unusual strength and advancing tendencies may be expected on virtually every product heavier than gasoline.

The gasoline price curve is expected to be relatively flat during October. As a result of the recent crude cut U. S. Motor gasoline is now selling at the same prices which prevailed a year ago. The level is so low that refiners will resist further declines to the utmost. If crude is cut again in October it is possible that gasoline might slip an additional quarter of a cent.

With gasoline available at the Gulf coast at figures with which Mid-Continent refiners would not care to compete even now, it is doubtful whether export buying during the next 30 days will be sufficient to cause any marked bulge in prices.

Mid-Continent gasoline stocks in the hands of Independents are not large and the present level of bargain prices may be expected to keep movement of motor fuel to the domestic trade at a fair rate, even with unsatisfactory weather conditions.

A number of large jobbers are now buying quite a little gasoline in excess of their immediate requirements for storage. They expect to continue this accumulation gradually during October and November in anticipation of higher prices in case the crude situation changes around quickly as it has done in recent winters.

These jobbers feel that prices are now so low that there is no possibility of purchases for the future going far wrong.

While kerosene is selling now at high prices considering the remainder of the market, it may be expected that the market will show even further advances during October. Exporters may be a factor in driving prices upwards since stocks are very low and any purchasing of consequence would have an immediate effect.

Movement of distillate has been good during September and should not fall off to any extent during October. Jobbers are filling up home storage tanks against cold weather and buying constantly to keep their own inventories as large as possible. Prices will follow closely in the footsteps of kerosene.

With railroads seeking more fuel oil to replace the dwindling Mexican supply, and former California oil buyers becoming interested in Mid-Continent fuel adding their inquiries in a market already tight, it is quite likely that fuel may advance another 5 cents per barrel or more in October. An additional cut in crude would probably have little or no effect on the fuel oil market in its present state.—J. C. Chatfield.

Western Pennsylvania Refinery Market

INDICATIONS today (the last of September) are that business should be good throughout October for the refiners of northwestern Pennsylvania. It now seems that only one major product may develop weakness. That product is gasoline.

Cylinder stocks trade is heavy and prices have advanced while gasoline has receded. Export business in lubricating oils has been improving for some time and may continue to improve unless prices move forward too fast, so fast that buyers may be driven from the field or to other fields, as was done early this year in the case of neutrals.

Viscous neutrals have been disappointing but buyers who left the Pennsylvania market early this year when 200 vis. No. 3 color neutral rose to 34 cents a gallon and other grades were proportionately high, are returning and may again actively support this market unless prices should again run wild. This return of buyers has been a stimulant and prices are firmer than they have been for several months. Demand should continue to improve throughout October.

While gasoline demand may be expected to taper off gradually, the volume of business should still be of considerable size at the end of the month because October is ideal in most of the territory served with motor fuel by Pennsylvania refiners. Prices may be expected to reflect the Mid-Continent market so far as spot market is concerned.

Kerosene should remain firm and fuel oil may strengthen if industrial activity picks up further. Demand for cracking purposes may not be so heavy as in summer but this 36-40 distillate is excellent for several reliable domestic oil burners and the number of installations of these is increasing in western New York territory easily served from Pennsylvania.

Paraffin wax is now strong and both domestic and foreign demand is good. Because of prospects of greater demand from abroad and the fact that most refiners are now committed until the first of the year, further strengthening may be expected.—R. B. Stafford.

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Mid-Continent Production

THE advent of October finds the Mid-Continent production situation and outlook in a sadly muddled condition. What the ensuing 30 days hold in store can only be guessed at, as many factors involving production and crude prices are involved, while some events of the past month have been of a contradictory nature, doing nothing more than add to the confusion that already exists.

As the month opens, Oklahoma production is declining and has been doing so for several weeks past, with one exception, when its increase was very small. During this period, Tonkawa has forged ahead to nearly 115,000 barrels daily and then slumped to 108,000, while Cromwell, the other important factor at present, declined steadily during the same period from 65,000 barrels a day to around 42,000. Burbank staged a comeback in the closing days of September, due to groups of wells being completed on leases acquired at the sale of June 30, but probably will have started on the decline again before the end of October.

During September, 13 deep sand wells were completed at Tonkawa and production from this source increased from 78,000 barrels to 86,000. The latter figure, however, was reached about the middle of the month, since which time this deep production has been almost constantly declining in spite of continued completion of new wells.

During October, probably twice as many new wells will be brought in as during September, and it is possible that the deep sand production may go as high as 95,000 barrels daily, which would place the field at around 120,000 barrels daily. This appears as an outside maximum estimate at this time.

At Cromwell, it is likely that a large number of wells will be completed in new territory during October, most of them during the later part of the month, and that field's performance under that stimulas of new production is an absorbing topic of discussion. The problem hinges upon the possible effects of drainage and dissipation of gas pressure on the new wells.

Although there has been a great waste of gas and a noticeable decrease of rock pressure in the older portion of the field, resulting in abrupt declines of flowing wells, it appears likely now that the wells in the northwest extension area will come in with gas pressures and initial productions practically undiminished.

If this proves to be the case, the field's output will increase rapidly and it may be producing as high as 80,000 barrels daily by the end of the month. Several important extension wells now drilling far in advance of Cromwell production will be drilled in early in October, so that month may furnish important data as to the field's future area.

With the exception of Papoose, only declines are indicated for other fields in the state. Several spots where wildcats have been successfully completed are being drilled up, but no important developments are to be expected during the month. Papoose has been increasing steadily for several weeks past, and was recently extended materially as to area, so that October may see that field get up into the 25,000 barrel class.

The course of the crude oil market in October is difficult to forecast, except that it seems safe to hazard a guess that it will not advance. The Prairie Oil & Gas Co. cut it twice in September, but it caused a great deal of confusion and surprise in its latest reduction by adding a grade and leaving oil of 36 gravity and over unchanged in price. Prior to this action, it had seemed that the tendency would be the other way, that is, toward a reduction in the number of grades and a reduction in high gravity crudes, while, endeavoring to hold up the price of lower grades.

With the Prairie's sales as small as they are, and its storage rapidly filling up, as reported, further price cuts and a return to old fashioned proration would not be surprising, unless production takes a decided and now unexpected slump.—A. F. Hinton.

California Production

ONLY the Rosecrans development promises soon to materially increase production in the Los Angeles Basin fields. Any threat that might have existed at Dominguez, which is the other prospectively important southern California pool, was removed when agreement was reached to curtail plans tentatively made for drilling a large number of wells on the southwest side of the structure, where the Associated Oil Co. and the Marland Oil Co. of California both have tracts of about 50 acres each that were proved for oil by Marland's recently completed first well in California.

Virtually all other productive ground on the Dominguez structure is controlled by the Shell Co. of California and the Union Oil Co. of California, the latter operating acreage held by it individually and in partnership with the Burnham Exploration Co.

Smaller completions than previously considered due have resulted in the Rosecrans area, which is located northeast of Dominguez, on a separate structure. Production at Rosecrans has been fluctuating around the 3000-barrel daily level for the five wells completed; but greatly augmented flow is to be ex-

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Tank Wagon Reductions

NEW YORK, Sept 30.—Today Standard Oil Co. of New York reduced gasoline 1 cent in New York and New England. This makes tank wagon in New York City 16 cents, service station 19.5 cents.

* * *

NEW YORK, Sept. 30.—Today Standard Oil Co. of New Jersey reduced tank wagon and service station prices of gasoline 1 cent throughout its territory.

Late Tank Wagon Reductions

Sept. 27.—Today Prairie Oil & Gas Co. reduced Mid-Continent and North Texas crudes from 10 to 15 cents per barrel, and restored the 33 to 35.9 grade and established 36 and above grade. New prices are: Below 30, 75 cents; 30 to 32.9, 90 cents; 33 to 35.9, $1.10; 36 and above, $1.25.

All other purchasers met the Prairie schedule in all fields, except the Kay County Gas Co.

Sept. 27.—Today Standard Oil Co. of Louisiana reduced all grades of Homer, Haynesville and El Dorado crudes 10 cents, and Smackover heavy crude, below 24 degrees, was advanced 10 cents to 85 cents. Prices of other Smackover grades and crude in all other north Louisiana and Arkansas fields remain unchanged.

Sept. 29—On Sept. 24 Standard Oil Co. of California posted prices on crude in the Rosecrans field, Los Angeles county, as follows:

36-36.9	$1.46
37-37.9	1.52
38-38.9	1.58
39-39.9	1.64
40-40.9	1.70
41-41.9	1.76
42 and above	1.82

THIS WEEK'S OIL NEWS SUMMARIZED

Crude Production By Districts

Oklahoma

	Daily average Sept. 27	Sept. 20
Bristow	47,550	47,700
Burbank	77,270	72,550
Cushing	23,750	23,600
Cromwell	42,100	44,780
Healdton	15,800	15,425
Hewitt	19,100	19,000
Osage, except Burbank	52,650	53,200
Papoose	15,450	13,230
Stroud	14,260	15,550
Tonkawa	108,500	112,300
Wewoka	6,900	7,530
Other fields	117,650	118,470
Total	540,980	543,335
Decrease		2,355

Kansas

	Sept. 27	Sept. 20
Augusta, Douglass	3,750	3,765
Blankenship district	2,770	2,730
Elbing, Peabody	7,650	7,650
El Dorado	16,225	16,000
Fox, Bush	3,110	3,200
Greenwood County	26,500	26,750
Other fields	25,100	26,200
Total	85,105	86,295
Decrease		1,190

Louisiana-Arkansas

Caddo, light	9,840	10,100
Caddo, heavy	2,000	1,985
Red River, DeSoto	5,380	5,390
Haynesville	16,900	17,150
Homer	7,250	7,380
Cotton Valley	6,900	8,100
Bellevue	4,500	4,295
ElDorado	11,200	11,485
Smackover, light	34,910	37,000
Smackover, heavy	72,805	80,550
Stephens	2,000	2,100
Nevada county	1,300	1,335
Total	175,015	186,870
Decrease		11,855

Market Summary

Mid-Continent

Gasoline stronger in spite of crude price cut. Stocks of high test gasoline are low. Kerosene strong. Distillates steady. Fuel unsettled slightly by reduction in Mid-Continent heavy crude oil prices but with strong undertone. Cylinder stocks firm.

North Texas

High test gasoline strengthening. Fuel oil strong and scarce.

Chicago Market

Gasoline firmer. Kerosene stronger. Fuel and gas oils firm except Smackover fuel which is spotty.

Pennsylvania

Cylinder stocks strong. Kerosene and fuel oil firm. Viscuous neutrals continue to improve. Wax stronger. High test gasoline steady. Motor gasoline easier in sympathy with recent drop in southwest.

Exports

Cylinder stocks, wax and kerosene strong. Gasoline quiet. Fuel oil spotty.

South Dakota Uses More Gas

VERMILION, S. D., Sept. 26.—Gasoline consumption in South Dakota in the first eight months of 1924, as indicated by state inspection statistics, was 37,965,620 gallons as against 32,946,929 gallons in the first eight months of 1923, a gain of 15.2 per cent. The consumption in the first eight months of 1922 was 27,841,340 gallons, the gain in 1923 being 18.3 per cent over that figure.

Texas and Coastal Louisiana

	Sept. 27	Sept. 20
Mexia, Currie, Richland	51,050	54,730
Corsicana, Powell	77,600	79,300
Wichita Falls district	73,540	72,750
Ranger Lime	32,020	33,080
Ranger Sand*	8,925	8,955
West Texas, Reagan and Mitchell counties	7,145	6,610
Panhandle	1,130	1,045
San Antonio, Luling, Mirando	46,100	44,480
Coastal Texas	71,890	72,409
Coastal Louisiana	9,395	9,040
Total	379,095	382,399
Decrease		3,304

Rocky Mountain District

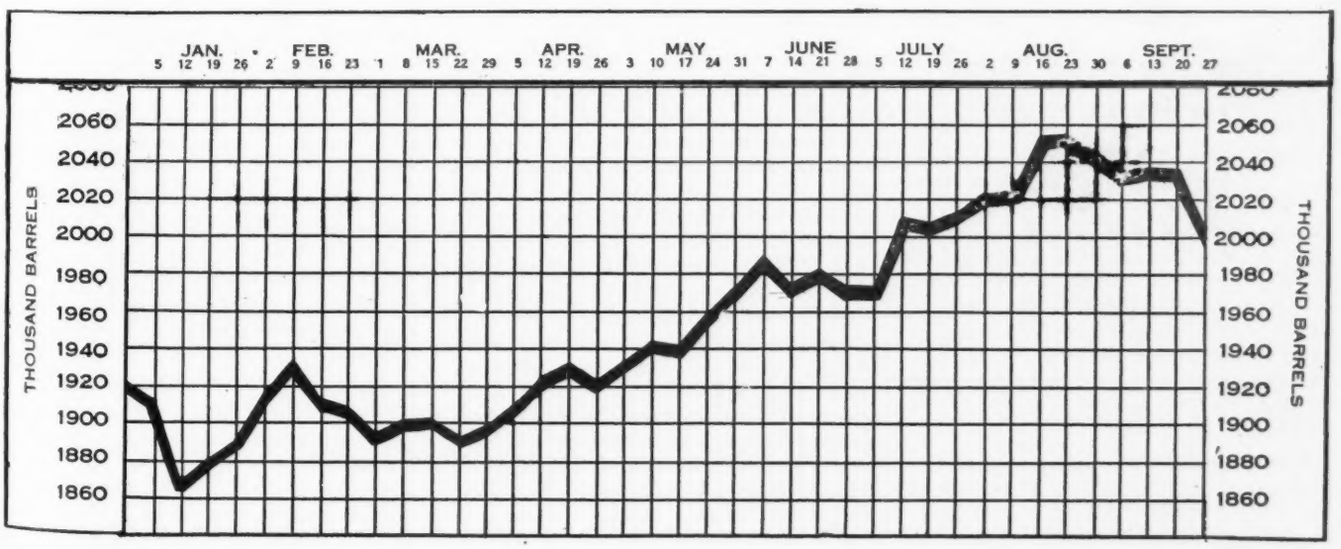
	Sept. 27	Sept 20
Salt Creek	76,330	77,490
Teapot	2,520	2,250
Big Muddy	3,840	3,860
Grass Creek	4,150	3,215
Elk Basin	930	1,050
Greybull, etc.	140	125
Rock River	3,050	3,200
Lance Creek	1,620	1,910
Foison Spider	710	890
Osage	330	335
Hamilton Dome	835	840
Notches	75	70
Lander	420	415
Pilot Butte	65	75
Lost Soldier	4,940	5,110
Ferris	110	150
Rex Lake	150	340
Craig	1,750	1,875
Cat Creek	3,690	3,745
Kevin-Sunburst	3,725	3,660
Miscellaneous	590	575
Total	109,970	111,180
Decrease		1,210

California

	Sept. 27	Sept. 20
Long Beach	144,000	145,000
Santa Fe Springs	55,000	54,000
Torrance	54,000	53,000
Huntington Beach	39,500	39,000
Dominguez	32,000	34,000
Rest of state	289,300	291,500
Total	613,800	616,500
Decrease		2,700

Eastern	104,000	104,000
Total U. S.	2,007,965	2,030,579
Decrease		22,614

Watch The Trend Of The Week's Production



pected later, when development reaches a more or less intensive stage because of the chopped-up character of holdings.

Los Angeles Basin fields responsible for 1923 congestion keep up their decline at about the rate previously measured for them, but Cal fornia production as a who'e is maintaining itself around the 610,000 to 612,000 barrel mark because of the staying qualities of wells in developed fields and normal work in old territory.

Accumulation of storage stocks in August to a new high level of 102,846,705 barrels, showing ga.ns in both heavy and light grades leads to the belief that figures issued in October for the month of September will show further small gains. Unless draughts are shown in the figures covering September it is probable that the entire year of 1924 will be marked by steady small accumulations to storage stocks, month by month, to new record levels.—Paul Wagner.

Texas-Louisiana-Arkansas Production

THE slackening in development work that follows upon the heels of crude oil price reductions, especially at a time when storage stocks of raw materials remain burdensome, will have the effect of bringing about some decline in daily average production in Texas, Louisiana and Arkansas over the next few months.

In contrast with Oklahoma and other producing areas, which have been increasing or maintaining their respective outputs because of fresh development work, that part of the southwestern petroleum industry which is embraced in the three states mentioned has kept up a policy for months of starting little unnecessary work.

Aside from Cotton Valley, La., which has failed so far to meet expectations but which eventually will produce sizeable quantities of oil, the only other great prospective area is that marked by the Big Lake development, in Reagan county, Texas. Both will be slow to be felt in terms of great quantities of daily average production; this statement being made, however, in line with development control rather than in discounting the ultimate importance of either.

Allowing for measured declines of old wells in developed fields and making reasonable allowance for new production where drilling is more or less necessary over the next few weeks and months, Texas should decline from roundly 385,000 barrels daily production at the present time to approximately 360,000 barrels daily by Jan. 1. South Arkansas, with nearly 135,000 barrels daily production now may be expected to decline 10,000 to 11,000 barrels by Jan. 1 and north Louisiana will about maintain itself around 50,000 barrels daily.

These declines, however, are unlikely to make for steady crude markets at the present level. It is the feeling in usually well informed quarters that Mid-Continent production will remain high enough to make impossible the staving off of further reduction in crude prices to a level of $1 a barrel for Kansas-Oklahoma and Texas light grades; a similar base for Gulf coastal "A" crude also being anticipated when the Mid-Continent reduction comes.—Paul Wagner.

Rocky Mountain Production

Several new districts are now contributing to the supply of crude oil in Wyoming, Colorado and New Mexico. These include the Moffatt field, in northwest Colorado, the San Juan Basin development in New Mexico and these will soon be joined by the Fort Collins field in north Colorado and the Rex Lake field in Wyoming. Oil from the latter two probably will be moving to refinery markets within the month.

Another new source of supply is the deep sand of Salt Creek, which has two wells. The second to be drilled to this horizon flowed at the rate of about 6000 barrels.

In spite of these increases, production of the entire district is not expected to make much advance within the coming 30 days, with the decline of output from the Wall Creek sands in Salt Creek.—L. E. Smith.

Amarillo Pipe Line Now Running Oil

WICHITA FALLS, Sept. 27.—Recent completion of the Pan Tex Pipe Line Co. built by Dorset Carter, of Oklahoma City, and others, has given the Amarillo Refining Co. a direct connection with the Amarillo field from which it draws its crude. Part of the crude is still being delivered to a loading rack at Panhandle through the lines of the Plains Pipe Line Co. and shipped in tank cars to Amarillo, a distance of 20 miles.

The Amarillo field is now producing about 1500 barrels of 32 to 36 gravity oil from eight wells. All the oil is being sold to the Amarillo Refining Co., of which V. E. Jackson, of Wichita Falls, is general manager and Reece S. Allen, president.

The refinery produces U. S. Motor gasoline, straw distillate, gas and fuel oils. While about 28 per cent of the crude is recovered as gasoline the refinery has been unable to make any kerosene thus far on account of trouble in meeting color standards. The Amarillo crude has an average sulphur content of two per cent and treating costs are four or five times as great as at refineries using north Texas crude.

Amarillo crude congeals at 40 to 50 degrees F. and the fuel oil produced has a cold test of 80 to 90 degrees. Part of the fuel is sold to the Santa Fe and the Fort Worth and Denver City, both of which touch Amarillo.

Pump Attendants Form Union In Illinois

CLEVELAND, Sept. 30.—Filling station attendants and employes of curb pump owners and garage keepers at West Frankfort, Ill., have organized a union and entered into an 8-hour agreement with their employers. The week's work is limited to 56 hours with time and a half pay for overtime work. The union is called Gas and Oil Fillers' Union No. 17743. The monthly labor review of the Department of Labor, has this to say of the West Frankfort local:

"The minimum scale of wages at stations where no commissions are paid shall be as follows: First man, $130 per month second man, $120 per month; third man, $110 per month.

"The minimum scale of wages at stations where commissions are paid shall be as follows: First man, $120 per month; second man, $110 per month; third man, $100 per month. Commission shall continue.

"All employes over 16 years of age shall procure a permit card within two days after beginning work, provided the employer has procured and considered a list of idle members from the secretary of Local Union No. 17743; otherwise no employe will be considered eligible for membership. All employes eligible for membership shall become members of Local Union No. 17743, within 30 days, and remain in good standing as long as employed."

Cal. Gasoline Output Higher in August

SAN FRANCISCO, Sept. 29.—Gasoline production in California during August totaled 99,955,286 gallons, which is a daily average of 3,224,364 gallons, according to statistics of the U. S. Bureau of Mines compiled by it from reports of the 35 refineries running in August, which were operating at 74 per cent of their capacity. This is an increase of 6,213,199 gallons over July, and decrease of 9,210,633 gallons under August, 1923. Stocks of gasoline amounted to 245,834,954 at the close of the month, which is a decrease of 15,584,243 gallons under July.

Production of kerosene totaled 22,435,015 gallons, which is an increase of 2,216,031 gallons over July. Stocks at the end of August were 31,911,021 gallons, which is an increase of 1,027,878 gallons over July.

Gas and fuel oil production amounted to 381,271,491 gallons, an increase of 15,836,516 gallons over July. Stocks decreased 17,372,533 gallons during August, amounting to 786,787,819 gallons at the end of August.

August output of lubricants was 8,599,182 gallons, a decrease of 488,244 gallons under July. Stocks remained about the same, there being 16,482.714 gallons on hand Aug. 31.

Leader Of Independents' Progress Still In Saddle

ALL through history one finds where great social, political or economic changes center around an individual Generally, however, that individual is of the dashing, sword-waving type who charges valiantly with a blast of trumpets, and a rattle of drums with war-like followers clanking at his heels. This even has been true in industry.

A great economic change has come to pass in the oil industry in the past 20 years. It has centered quite largely around a man, who however, was the antithesis of war, while yet a leader in one of the greatest industrial wars in history. There was much clatter and clash of war implements and the din of battle at times was great. But this leader of one of the contending forces while he would write a vigorous truth for a court's perusal and direct the field operations with his counsel, was soft spoken and without rancor and seemed more to be a bystander than a general.

Yet the development of the Independent portion of the oil industry of the past 20 years centered around his leadership. The first 10 of those years were most active. The big investigations of the oil industry started by the then President Roosevelt were on and this quiet leader of the then minority of the industry had a leading part in all of them. He fought for anti-discrimination laws in most states, and won in most of them. Then followed years of work before the newly strengthened Interstate Commerce Commission in whipping the oil rates of the country into shape so that Independent refiners could reach their natural markets with no undue burden or restriction. There were hundreds of these cases. For years hardly a week went by but this minority leader journeyed to Washington to try at least one case and generally several.

Probably no one man in this country's history has had so much to do with the freight rates of an industry as he and his immediate associate, F. W. Boltz. Most of the refiners and jobbers of the country today are operating on rates or rate principles established by their effort. The newcomer of recent years to the oil industry would have no conception of the work of this man and the benefits to the industry, unless he spent weeks in studying the files of the commission and other government agencies.

This man can well survey the vast Independent oil industry of today and feel that he has been probably the most important individual factor in building it. But as he won't make such survey and such observation, we herewith step forward and undertake it for him, and we ask the oil industry to join us in our statement.

The reason for this comment at this time is that after 20 years of hard, grinding work in the service of the industry that man is passing over some of the more arduous duties to younger shoulders, that he may devote more of his effort to the study and practice of law which last has been crowding in on his time and energies of late years.

That peaceful leader of a once warring band that grew into many thousands, is C. D. Chamberlin who for all these years has carried on the work of the National Petroleum Association, as its secretary and general counsel He continues in that office which he has held since the organization of the association but the routine and detailed work he now gives over to F. B. Dow who has been Washington counsel for the association for some years.

But this shifting of some of the harness of the job warrants the industry to pause and give thought to what this man has done for it. This is a busy world, but we take this few minutes of your time and ours to honor him who has been one of the greatest builders of the oil industry as it is today —he who is known throughout the industry by that title of peace—a nickname which sprung up from the affectionate and honored regard of the whole industry—"The Judge."—W. C. P.

Cosden & Co. Buys Out Taxman Refining Co.

Staff Special

TULSA, Sept. 27.—Cosden & Co. has purchased the Taxman Refining Co. thus gaining control of the organization which has been selling the output of the large West Tulsa refinery during the past two years, it was announced this week. The company was taken over on Sept. 24 through the exercise of an option which is reported to have been taken shortly after the new administration assumed control of Cosden & Co.

All of the Taxmans withdrew from the Taxman Refining Co. at the time of the transfer of the company to its new owners. All other employees have been retained. At some future date the name of the company will probably be changed to the Cosden Sales Corp.

The Taxman Refining Co. maintains offices at Chicago and Kansas City. It has done a tremendous business during the past two years in handling the bulk of the output of the 40,000 barrel Cosden plant.

At the time Jacob France assumed the presidency of Cosden & Co. he indicated that changes would be made in the marketing policy of the company. The present move is looked on as an initial step which may be followed by others in the near future.

John Carson is retained by the Cosden interests as sales manager for the Cosden Sales Corp. The Taxmans and E. F. Borgolte, formerly of the Acme Petroleum Co., have organized the Atlas Petroleum Co. which will conduct a marketing business.

Cosden & Co. has made no marginal contracts for 1925 thus far. Contracts which have expired in recent weeks have not been renewed. Thus far officers of the company are not ready to announce what the contract policy of the company will be for the coming year. The company is known to be dissatisfied with marginal contracts based on Standard tank wagon prices.

During the past two years it has written contracts sufficient to take its entire output. Both years have seen low spot markets which have caused jobbers to hold up instructions on contract gasoline and buy their goods on the outside. The result has been that Cosden has been forced into the spot market with its goods both years at a time when markets were at their lowest ebb.

Unless some contract form can be devised which will assure Cosden & Co. of an outlet for its goods to the jobbing trade it is likely that the company may seek to acquire a system of stations of its own so that there will be no possibility of midsummer finding the company with large stocks of gasoline produced for its customers while the customers are buying elsewhere.

Lake Maracaibo Inlet Not To Be Dredged

HOUSTON, Sept. 25.—L. W. Adam, formerly with the Carribean Petroleum Co. and the old Latin American Petroleum Co., in Venezuela, has been spending a few days in Houston on his way to New York.

Mr. Adam brings news to the state of the Venezuelan government's disposition not to dredge the channel of Lake Marasaibo, which would have provided inlet for ocean-going tankers to load ng points adjacent to oil development in this part of South America.

Such a policy prevents tankers entering the lake and, because of the government's earlier policy of not permitting outside capital to open the channel, there results a delay in the time before Venezuelan crude can move out of that country in sizeable quantities. Until the channel is opened it will be necessary to barge oil to loading terminals along the coast outside Lake Maracaibo, which latter will require time to construct.

Mr. Adam reports the recent completion of a 40,000-barrel well in the lake bed adjacent to La Rosa development by the Venezuelan Gulf Oil Co., which "gusher," he says, has been shut in.

Production marketed from Venezuelan wells, Mr. Adam says, is being handled by the Royal Dutch-Shell interests to their refinery at Curacao, which has

High-Priced Acreage On The Exposition Grounds At Tulsa Is Being Rapidly Drilled Up; All Kinds Of Rigs And Tools Being Used; No Big Oil Pool Is Expected

By A. F. Hinton

STAFF REPRESENTATIVE

TULSA, Sept. 30 A REMARKABLE new field is being developed in sec. 1-19-12, Tulsa county, on a structure the closing contour of which includes but seven acres. On account of the fact the land has been subdivided into a large number of small tracts, an intensive drilling campaign has gotten under way, and already nine wells are starting up, or more than one well to the acre. Probably the most remarkable feature of this development is the multiplicity of derrick designs being used and the fact that wells are being drilled with standard tools and rotary, with steam, gas engine, and electric power.

In this small field, with only nine wells going down, derricks of all kinds are to be seen, there being well-wood, all-steel, combination wood and steel, and turn buckles jostling against each other within the narrow confines of the structure. Also there is one well using a portable drilling outfit with mast, which is said to be able to drill as deep as 3500 feet. The derricks range in height from about 30 feet to 124 feet.

Each well in this model field is equipped with the very latest designs in tools and equipment, and not even the Corporation Commission of Oklahoma or Claude Connally, the safety commissioner, could find anything to object to in the preparation made to find and conserve oil and gas and the provisions made for the safety of the workers. If any appliance known to the industry in drilling practice is missing from these wells, it is because the company manufacturing the article could not find room on the derrick or the floor to display it.

Development of this field has been so rapid since the word was first passed around that here was to be the Mid-Continent's next major pool that the large companies which so pride themselves on keeping accurate and recent data on all drilling wells, locations, rigs, and dry holes have not had time to get sufficient dope on these wells to include them in their weekly scouting reports, and it will probably cause them much humiliation to see them thus first reported in National Petroleum News.

The Exposition Grounds

By a coincidence, the land on which the field is being developed belongs in fee to the Prairie Oil & Gas Co., but this company is not directly interested in any of the wells drilling on it. The property is controlled at present by a group of citizens headed by L. B. Jackson and E. F. McIntyre, who cut the tract into numerous small parcels and leased them out as drilling sites. It happened that a number of supply companies leased the lots and are drilling the wells, which explains in a measure the wonderfully complete equipment to be found at each derrick.

The first well to start rigging up, and probably the first to spud in, is the Hinderliter & Staples No. 2 Chicken Farm, located near the east end of the field, and just north of the south closing contour. While pretty well down on the structure, it is thought this well has a good chance to get production in the Champagne formation, in which the same operators' No. 1 was completed last year in the since-abandoned field near Convention Hall, Tulsa.

The Chicken Farm well is being put down with Standard tools, and is using a Wertzberger standard derrick with safety platform around the crown block. A great variety of tools and equipment will be used in its drilling, among which are an O. C. S. chain-driven sand reel, and a Mason walking-beam shock absorber. Extra space has been provided on both sides of the belt house for a display of drilling tools.

Offsetting this well to the north is the Drake No 1, a well being put down by a group of Pennsylvania operators who do not believe in all these new-fangled ideas, and who think that what was good enough for Col. Drake is good enough for them. As an evidence of their loyalty to the father of petroleum and to the state in which the first oil in the world was drilled, they are making this well as near a replica of the original Drake well as it is possible to make it. In fact, the original Drake tools will be used.

Contrast With Drake Rig

North of the Drake well, on an adjoining lot, a striking contrast presents itself. Here is a towering 128-foot Wertzberger derrick with platforms at fourble-board and crown block and with all the latest refinements of derrick construction. A rotary hole will be put down at this location, with a large variety of equipment. To the east offsetting all three of the wells already mentioned, Parkersburg Rig & Reel Co. et al are drilling, using standard tools, with electric power. Over this well is an 84-foot "Woodensteel" derrick.

In the northwest corner of the property, the National Supply Co. is drilling two wells on its high-priced acreage, and in order that it may be sure to find out which is the best method for this particular field, is using rotary in one and standard tools in the other. Its rotary-drilled well is using a new-type Slater turnbuckle derrick, while the cable-tool well has a National No. 3 portable drilling machine. The New Ideal Universal Rotary is being used in the No. 1 well.

Two locations east of the National rotary test, the Oil Well Supply Co. is drilling its No 1, using a 114-foot National turnbuckle derrick, with Oilwell Imperial rotary and full equipment. It is most unusual for two supply companies to be offsetting each other in a race for the producing formation, and the contest will be watched with much interest. Inasmuch as all the leases on these derrick lots expire Oct. 11, all concerned will have to hustle to get their wells completed before that date.

Two outside locations have been staked and derricks erected east of the proven area of the field, offsetting each other on opposite sides of Peoria av-

Knights Of The Derrick Meet Oct. 4 In Tulsa

TULSA, Sept. 27.—Members of the Knights of the Derrick, a fraternal organization of oil men organized last year during the International Petroleum Exposition, have been notified that Saturday, Oct. 4, has been designated Knights of the Derrick day at this year's exposition. On that date there will be a meeting of members and others interested in the organization at 10:30 a. m. in the theater on the exposition grounds. The trustees of the organization, 41 in number, who were elected recently, probably will hold a meeting during the day, for the purpose of electing an executive committee to carry on the work. The primary purpose of the organization is to provide a home for old and indigent oil men.

A Dinner Invitation

CHICAGO, Sept. 30.— A hearty special invitation is extended by Secretary John D. Reynolds of the American Oil Men's Association to every oil man visiting the Petroleum Exposition and Congress at Tulsa, to attend the semi- annual dinner of the American Oil Men's Association to be held at Hotel Tulsa at 6 o'clock, Tuesday, Oct. 7.

The oil men are urged to keep that evening open for this event. There will be addresses by Pat Malloy, former president of the Western Petroleum Refiners Association; Lafe S. Collins, S. L. Collins Oil Co., Knoxville, Ia., and Harry H. Smith, secretary of the Mid-Continent Oil & Gas Association.

enue. These are galvanized angle-iron derricks of the International Derrick & Equipment Co., known as "Ideco" through an original grouping of initial letters, a practice, heretofore but little used in the oil industry. There is some suspicion that these derricks do not indicate an intention on the part of the operators to drill, but are intended rather as an inducement to get the public interested in the development of the new field.

This suspicion is heightened by the fact that there is a huge sign stretched across the street joining the derricks, telling the public that here is a chance to get in the oil industry on the ground floor. The sign reads: "International Petroleum Exposition."

California Company Is First In Gas Supply

LOS ANGELES, Sept. 27.—Leading all other gas companies in the United States during 1923, the Midway Gas Co of Taft, Calif., has made a report which shows that it distributed 46,398,919,000 cubic feet of gas during the year, while its nearest competitor, the Consolidated Gas Co. of New York City handled 41,448,881,500 cubic feet.

The Midway was formed in 1911. During the following year it built a pipe line to Los Angeles, through which it is now handling 30,000 000 cubic feet of gas per day. In 1916 the Valley Gas Co. took over the California Company and in 1919 the Valley and Midway Gas Companies were merged.

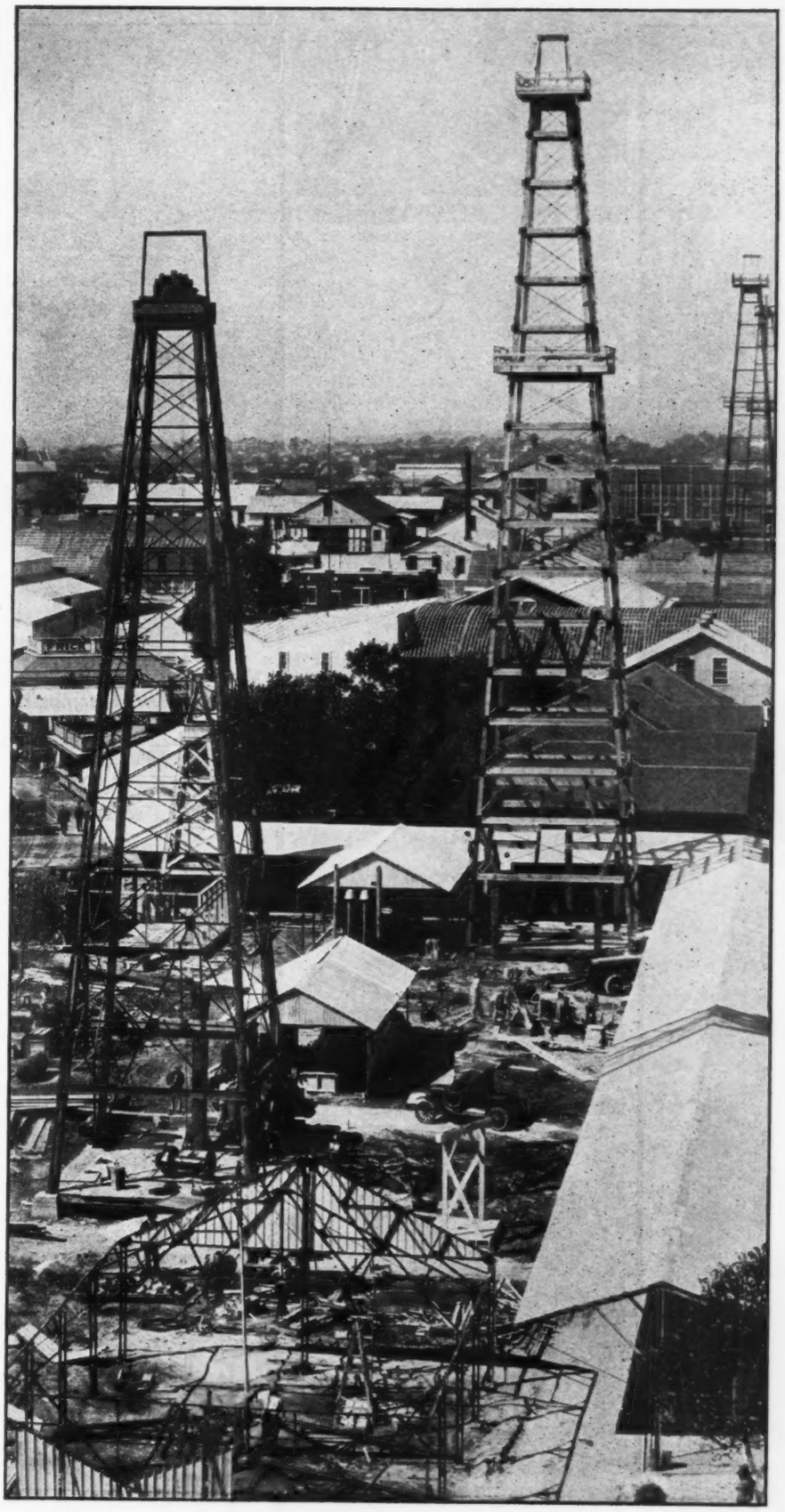
A brief outline shows the extensive service of the valley division of the Midway Gas Co. when exclusive of the 30 000,000 cubic feet delivered to Los Angeles, 54,000,000 cubic feet daily are consumed in the Kern district, with the San Joaquin Light & Power Company using 25,000,000 cubic feet for its steam plants, the balance being used by consumers and industrial plants in the west side and Kern river districts.

The source of supply of the natural gas to the Midway company comes mainly from the Elk Hills and Buena Vista Hills districts. Wells with more than 300 pounds pressure, if the gas is dry, are delivered directly into the Valley system.

Conewango to Have Plant Scene View

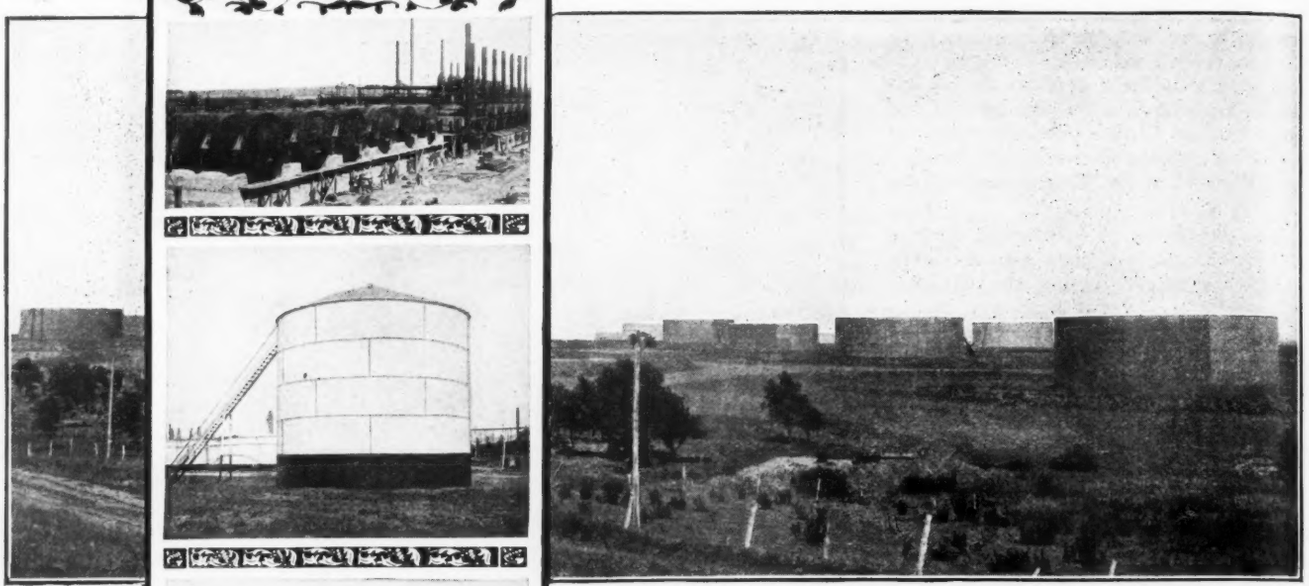
WARREN, PA., Sept. 27.—A realistic setting for the exhibit of the Conewango Refining Co. at the Tulsa Exposition in space 7, California building, has been planned A background showing the Conewango valley with the river winding between the hills, an outline of Pennsylvania with Warren as "quality oil headquarters," together with the soft flood lighting effects, will furnish atmosphere of the home of Conewango products. The Conewango plants will appear on either side and products of the valley, HM, LM, Palo, 114 and Conewango motor oils will be featured.

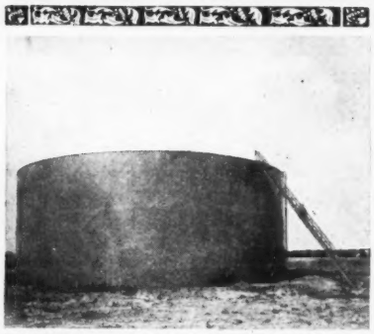
Tests Going Down On Exposition Acreage



URBANA, ILL., Sept. 27.—The Illinois state geological survey has issued a booklet, "Further Consideration of Prospects for Oil in the Decatur Area," by D. M. Collingwood.

Some two years ago the Lincoln Oil & Gas Co., financed by Decatur men, drilled a test west of Decatur which found small production at about 2000 feet depth. This was 20 to 40 feet below the top of the Niagaran limestone. The well was tubed and the fluid is under sufficient pressure to flow occasionally. Three other tests have been drilled.





First

Strange things were being done one day more than two years ago at a tank farm in Humbolt, Kansas. Strange pieces of equipment, the like of which had never before been seen on a tank farm were being moved on the roof of an 80,000-barrel tank. The sound of riveting was hushed. The heater's fire was cold.

The soft red glow of ready rivets had for the first time been replaced by the quick flash of the arc.

Commercial welding of oil tank roofs was being done for the first time.

Hortonwelding was being born.

The first work was followed with other attempts to perfect the Hortonweld process and finally we announced that our efforts to develop a satisfactory welding process for roofs and bottoms had been so successful that we recommend Hortonwelding for roofs and bottoms as being better construction than riveting.

We were not content to make this announcement from the appearance of our welds. Our decision was based upon the results of a large number of tests which we made upon actual test specimens. The table of joint efficiencies published in our corporation magazine, The Water Tower, was the first published result of any extensive tests made on electric welded joints.

Just as Hortonwelded roofs and bottoms have served other oil companies they can serve you. Whether you are replacing roofs or purchasing new tanks we believe you will find it decidedly to your advantage to obtain a quotation from us.

CHICAGO BRIDGE & IRON WORKS

CHICAGO	NEW YORK	DALLAS	SAN FRANCISCO
2125 Old Colony Building	3145 Hudson Terminal	1639 Praetorian Building	1060 Rialto Building

HORTON TANKS

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Program Of The Petroleum Exposition And Congress

Thursday, Oct. 2

Opening parade, Pageant of the Princesses—10 a. m.

Meeting of Rig Iron Standardization Committee, Assembly Room Mid-Continent Oil & Gas Association, 506 Cosden building.

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Friday, Oct. 3

"Styles and Smiles of 1924," 2:15 p. m. and 8:15 p. m. Exposition Theater.

Saturday, Oct. 4

Meeting of the Knights of the Derrick, 10:30 a. m., Exposition Theater.

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Sunday, Oct. 5

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Monday, Oct. 6

Opening session International Petroleum Congress, 10 a. m., Exposition Theater.

L. B. Jackson, address of welcome—President, International Petroleum Exposition and Congress.

Richard F. Grant, President, United States Chamber of Commerce, Washington, D. C.

"The Case for Business."

Governor M. E. Trapp, of Oklahoma.

"Business and Government."

T. S. Sligh, Bureau of Standards, Department of Commerce, Washington, D. C.

"Research and Testing at the Bureau of Standards as Related to the Petroleum Industry."

Meeting of general standardization committee of the American Petroleum Institute, assembly room, Mid-Continent Oil & Gas Association, 506 Cosden building.

Petroleum industry interstate golf tournament, Tulsa Country club.

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Tuesday, Oct. 7

International Petroleum Congress, 10 a. m., Exposition Theater.

Professor Chas. M. McKergow, McGill University, Contreal, Canada.

"Petroleum and the University."

George Otis Smith, Director, Geological Survey, Washington, D. C.

"Needed—A Program for Profits."

Dr. David White, Chairman, Division of Geology and Geography, National Research Council, Washington, D. C.

"Researches in the Geology of Finding and Recovering Oil."

Senator J. W. Harreld, U. S. Senator from Oklahoma.

"A Defense of the Oil Industry as Such."

S. E. Wallen, Supt. Five Civilized Tribes, Muskogee, Okla.

"Oil Development Under the Supervision of the Five Civilized Tribes."

H. L. Horning, President, Waukesha Motor Co., Waukesha, Wis.

Subject not yet submitted.

Petroleum industry interstate golf tournament, Tulsa Country club.

Semi-annual meeting American Oil Men's Association. Dinner in tea room, Totel Tulsa.

American Association of Petroleum Geologists—

Tea at Oakhurst Country Club by wives of Tulsa geologists for visiting ladies of association, 2:30 to 4:30 p. m.

Smoker at Virginia Grill, 8 p. m. for members and American Institute of Mining Engineers.

Meeting of Western Petroleum Refiners' Association, assembly room Mid-Continent Oil & Gas Association, 506 Cosden building.

Merchants and Civic Parade, 10 a. m.

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Wednesday, Oct. 8

International Petroleum Congress, 10 a. m., Exposition Theater.

Fay M. Connor, Conservation Officer, Oklahoma City.

"What Regulation Might Be to the Oil Industry in Okla."

M. J. Kirwan, Supt. Bartlesville Petroleum Experiment Station.

"Recent Activities of Petroleum Experiment Station at Bartlesville, Oklahoma."

C. J. Wrightsman, attorney, Tulsa.
"Oil and the People."

W. C. Platt, President, National Petroleum News, Cleveland. Subject not yet submitted.

A. Serebrowsky, President, Russian Oil Trust, Long Beach, Cal.

"Particulars of the Russian Oil Industry."

Fayette B. Dow, Attorney, National Petroleum Assn., Western Petroleum Refiners Assn., Munsey Bl., Washington, D. C.

"The Oil Industry's Public Relations."

Petroleum industry interstate golf tournament, final play and presentation of trophies, Tulsa Country club.

Meeting of Ardmore Derrick No. 1, Sholom Alechem.

Meeting of Mid-Continent Oil and Gas Association, Assembly Room, 506 Cosden Bldg.

Dinner-dance at Oakhurst Country club for American Association of Petroleum Geologists, 8 p. m.

"Styles and Smiles of 1924," 2:15 p. m., Exposition Theater.

Coronation of Queen Petrolia at 8:15 performance of "Styles and Smiles."

Exhibitors' Ball, Burke's hall, 10 p. m.

Thursday, Oct. 9

The Queen's Parade, 10 a. m.

Meeting of Oklahoma Oil Jobbers' Association, Chamber of Commerce Hall, 10 a. m.

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Friday, Oct. 10

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Saturday, Oct. 11

"Styles and Smiles of 1924," 2:15 and 8:15, Exposition Theater.

Crude Oil Production And Stocks Went Up During August

WASHINGTON, Sept 29.—Production of crude oil in the United States increased by 18,775 barrels a day during August as compared with July, according to the figures just given out by the Geological Survey, and stocks of crude increased by 5,433,000 barrels as compared with stocks on hand on July 31.

Total consumption of crude during August, measured by the amount of crude delivered by pipe lines and other marketing companies to refiners and other consumers, fell off 33,582 barrels as compared with consumption in July. Imports of crude exceeded exports in August by 149,000 barrels.

The figures of the Geological Survey covering production in August follow:

Daily Production of Crude Oil by States

	August	Change over July
California	616,548	− 5,218
Mid-Continent		
Oklahoma	504,839	+28,766
Kansas	86,871	+ 8,710
Total Mid-Continent	591,710	+37,476
Southwestern		
No. and Cent. Tex.	294,194	− 3,128
North Louisiana	51,032	− 33
Arkansas	135,322	− 6,904
Total Southwestern	480,548	−10,065
Gulf Coastal		
Texas Coastal	67,935	− 1,775
Louisiana Coastal	6,194	− 322
Total Coastal	74,129	− 2,097
Rocky Mountain		
Wyoming	111,935	+ 3,129
Montana	9,129	+ 1,258
Colorado	2,419	+ 903
Total Rocky Mt.	123,483	+ 5,290
Central States		
Illinois	22,194	− 1,064
Indiana	2,516	− 322
Ohio (Lima)	5,452	− 387
Total Cent. States.	30,162	− 1,773
Appalachian		
Kentucky	19,861	− 1,958
Pennsylvania	20,484	− 1,161
West Virginia	15,710	− 1,161
Ohio (except Lima)	12 35	− 581
New York	3,613	+ 32
Tennessee	10	− 9
Total Appalachian.	72,613	− 4,838
Grand Total	1,989,193	+18,775

Indicated Daily Consumption

(Deliveries by pipe lines and other marketing companies to refineries and other consumers.)

	August	Change over July
Appalachian	80,806	+16,193
Lima, Indiana	4,709	+ 32
Ill. and S.W. Ind.	19,387	− 3,484
Mid-Continent	966,290	−10,516
Gulf Coast	71,839	+16,871
Rocky Mountain	80,710	− 6,290
California	570,742	−27,871
Total Domestic	1,794,483	−15,065
Exports	36,903	− 7,420
Consumed in U. S.	1,757,580	−22,485
Imported Petroleum	206,000	−11,097
Total consumption in U. S.	1,963,580	−33,582

Pipe Line and Tank Farm Stocks

(Domestic stocks by origin of oil, not location of storage.)

	August 31	Change over July 31
Appalachian (N. Y., Pa., W.Va., E. and Cent. Ohio)	6,428,000	−136,000
Kentucky	2,509,000	−118,000
Lima, Indiana	1,192,000	+ 46,000
Ill. and S. W. Ind.	11,182,000	+142,000
Mid-Continent (Ok. Kan., N. and Cent. Texas)	180,104,000	+4,059,000
No. La. and Ark.	36,112,000	− 774,000
Gulf Coast	21,106,000	+ 71,000
Rocky Mountain	29,571,000	+1,345,000
Total east of Calif.	288,204,000	+4,701,000
California, gross	68,601,000	+1,420,000
Imported Crude—		
Atlantic Coast	297,000	+ 82,000
Gulf Coast	796,000	− 188,000
Total imported	1,093,000	− 106,000
Grand total crude stocks except at refineries	361,673,000	+5,433,000

Imports and Exports of Crude Oil

(From Bureau of Foreign and Domestic Commerce.)

Imports—	August	Change over July
From Mexico	171,742	−16,645
From oth. countries	17,355	− 4,000
Total imports	189,097	−20,645
Exports—		
Domestic Oil:		
To Canada	27,290	+ 1,064
To other countries	9,613	− 8,484
Foreign crude oil	3,161	+ 2,064
Total exports	40,064	− 5,356

Excess of imports of crude oil over exports in August was 149,033 barrels

Changes In Sales Branch Of Texas Co.

HOUSTON, Sept. 28.—Changes in the sales department of the Galena Signal Oil Co. of Texas, under F. D. Gatchell, vice president in charge of sales, have been recently effected as follows: Mr. Gatchell maintains offices in the Liggett building, New York City, where S. E. Lane has his headquarters as sales manager for eastern territory and R. M. Hill is New York district sales manager.

E. M. Armsby, formerly of Houston, is district sales manager in Atlanta territory, with offices in the Forsythe building; J. R. Bolt is representative of the company at Minneapolis, where he has offices at 835 Andrus building; R. Parks Williams is sales manager in southern territory, with headquarters at Houston, and H. D. Shean is district sales manager at New Orleans; E. K. Herring, formerly in the retail sales department at Houston, is now in charge of the Wilmington, N. C., Terminal; the Mexico City offices has been moved back to Houston and H. O. Claywell, as manager of Mexico sales territory, transferred to the offices in the Second National Bank building; J. C. Tipton, formerly southern division sales manager at Houston, is now district sales manager at Chicago of the Galena Signal Oil Co. of Pennsylvania.

HOUSTON, Sept. 26.—David Donoghue, consulting geologist, Houston, is back at his home after a business trip to Reagan county and elsewhere in the Edwards Plateau region around San Angelo.

Coming Meetings

Thirteenth Annual Safety Congress, Petroleum Section, Brown Hotel, Louisville, Ky., Sept 29 to Oct. 3.

International Petroleum Exposition, Tulsa. Oct. 2 to 11.

Oklahoma Oil Jobbers' Ass'n. Tulsa, Oct. 9.

American Mining Congress, Sacramento, Calif., Sept. 29 to Oct. 2.

American Oil Men's Ass'n, Hotel Tulsa, Tulsa, Oct. 7.

Oklahoma Oil Jobbers Ass'n, Municipal Bldg., Tulsa, Oct. 9.

Kansas-Oklahoma division of Mid-Continent Oil & Gas Ass'n, Hotel Tulsa, Tulsa, Oct. 8.

Wisconsin Independent Oil Jobbers Ass'n., Plankinton Hotel, Milwaukee, Wis., Oct. 15.

National Petroleum Marketers Ass'n., Public Hall, Cleveland, O., Nov. 18, 19, 20.

N. P. N. wil be glad to carry notices of meetings of national associations, state jobbers associations and other organizations in which oil men are interested. Notices should be sent to the Editorial department a month before meetings are to be held.

Output Of Automobiles Larger In August

WASHINGTON, Sept. 27.—Output of passenger cars and trucks in August was slightly larger than in July, according to reports to the Department of Commerce by 99 manufacturers of passenger cars and 136 makers of trucks. The output totaled 269,115 cars and trucks as against 263,152 in July. Comparative figures follow:

Passenger Cars

	1924	1923	1922
January	287,353	223,822	81,696
February	336,371	254,782	109,171
March	348,056	319,789	152,962
April	337,045	344,661	197,224
May	279,453	350,460	232,462
June	217,943	337,402	263,053
July	237,668	297,371	225,103
August	241,631	314,431	219,498
September	298,928	187,711
October	335,093	217,582
November	284,923	215,362
December	275,439	208,016

Trucks

	1924	1923	1922
January	28,925	19,732	9,598
February	31,156	22,173	13,360
March	34,118	35,284	20,030
April	36,158	38,085	22,665
May	33,412	43,730	24,120
June	27,874	41,173	26,354
July	25,235	30,692	22,083
August	27,484	30,872	24,711
September	28,578	19,495
October	30,139	21,824
November	27,762	20,394
December	27,762	20,394

HOUSTON, Sept. 26.—D. J. Moran, vice president of The Texas Co., in charge of the producing department, is back at his desk after a rest period spent at Marlin, Texas.

Accidents Few Considering Vast Volume Of Petroleum Handled

By W. R. Boyd Jr.

Assistant Secretary, American Petroleum Institute

Delivered At The Meeting Of The National Safety Congress, Louisville, Sept. 30

LOUISVILLE, Oct. 1.

WHEN we are sick and send for a doctor we usually expect to get one that has, at least, been taught medicine. There is no need for me to tell you that you will not now hear from a safety "doctor." You will soon discover it. Perhaps the only excuse the makers of this program can offer for ask ng a layman l ke me to talk about safety is because the nurse's chart does not indicate that the petroleum industry is really very sick or, in other words, that there is not a great deal of fault to be found with us.

Certainly we do have, relatively speaking, a remarkably low percentage of accidents as the result of the handling and use of crude petroleum and its refined products.

In 1923, 24,437 wells were drilled in the United States in the search for oil. 16,279 wells found the oil, 8158 did not. A total of 290,000 wells operated and produced, in 1923, 732,407,000 barrels of crude oil of 42 gallons each. This oil either went to refiners for manufacture or into storage tanks. No accident figures for the country are available, so far as I know, but it is common gossip within the industry that consequential accidents in the production of crude oil are comparatively few and far between.

In 1923 there were in the United States 564 refineries capable of running through their comb'ned stills a maximum of 2,930,000 barrels of crude oil per day. Actually 581,000,000 barrels were run to stills out of which the refineries manufactured 7,556,000,000 gallons of gasoline, 2,349,000,000 gallons of kerosene, 12,074,000,000 gallons of gas and fuel oil, and 1,097,000,000 gallons of lubricating oil. The rest went into miscellaneous manufactured products such as distillates, wax, coke, asphalt, etc.

Refiners Use Precaution

My information is that the oil refineries of the country are alive to the safety problem, that they have provided modern and approved safeguards and protective devices in their plant, storage and loading operations and that in many of the plants safety organizations of one kind or another function for educational purposes.

Perhaps the greatest number of accidents incident to handling petroleum products might be expected to arise in the transportation from refineries to distribution points. Gasoline and the other inflammable products move freely in bulk about the country in tank cars. These cars are subjected to rough railroad usage and necessarily are handled in transit by train and switching crews more or less inexperienced in the handling of these products.

The industry feels its responsibility. Roundly 130,000 of these especially designed and adapted tank cars are engaged in moving petroleum and its products over the railroads of America. These tank cars are not railroad property. They are owned and operated by oil companies or by tank car companies serving the oil industry. The construction of the cars and the loading, unloading and safe operation of this taraffic in transit is done in accordance with rules for safety made by the Interstate Commerce Commission in pursuance of a special act of congress.

In 1923 there originated on Class I railroads a total freight revenue traffic of 1,277,318,731 tons. Of this tonnage crude and refined petroleum products amounted to 44,736,958 tons or 89,473,916,000 pounds. In point of accidents within the year the carriers experienced train and train service accidents numbering 81,967 which killed 6922 and injured 54,464 persons. Only 327 of these accidents in any way involved petroleum products.

Small Percentage of Accidents

For the three year period 1919-20-21 petroleum products was 3.53 per cent of all the traffic but the percentage of accidents in any way involving our product—whether due to collisions, wrecks, carelessness, defective equipment or what not—of all train and train service accidents was only 33/100 of 1 per cent, the percentage of killed 17/100 of 1 per cent, the percentage of injured 46/1000 of 1 per cent.

When one considers the extremely low ratio of these accidents to volume of traffic and the fact that these tank cars traveled loaded with inflammable products under all kinds and character of railroad transportation conditions, between six and seven million miles within a year, surely the industry can be permitted to point with pride to its record for safety in the transportation of its products.

Within the past few years and in every branch of the petroleum industry, much work along safety lines has been done. Much more will be done. The American Petroleum Institute has for a number of years been co-operating with such agencies as the Interstate Commerce Commission, the Bureau of Explosives, the American Railway Association and the National Fire Protection Association. The Institute has, divided into geographical groups, a national committee on fire prevention and protection to life and property. This committee has given and will continue to give thought to the problems involved in its work.

The legitimate oil industry seeks to serve its public to the mutual advantage of both. It is an honest business in which men may and do engage lawfully and ethically. It has nothing to conceal from its government or from its public. It has nothing to apologize for, nothing to be ashamed of—but much to explain. It is for one purpose or another maligned and abused. It is much misunderstood. Its principal weakness, from an economic viewpoint, lies in the fact that, being comparatively a new industry, its fundamental economic facts and its current situations are not generally understood.

The industry is not one great controlled organization. It is, literally, a multitude of separate, independent units each controlled by the judgment of its

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WHILE not pretending to be an expert in safety matters, Mr. Boyd in the accompanying paper points out the amazingly small number of accidents that occur in the production, transportation, refining and distribution of petroleum products. He points out that the percentage of accidents in the transportation of gasoline and other oil products on the railroads runs far below the percentage which oil shipments form of the total of railroad traffic.

We are frequently told of the tremendous hazards which are involved in the shipping of gasoline and that gasoline is the most dangerous commodity handled by the railroads. But, as Mr. Boyd points out, the fact is that in percentage of accidents to volume handled, gasoline runs far below at least half a dozen other dangerous commodities.

But the oil industry is not satisfied, as Mr. Boyd says. Through the institute and other organizations, constant efforts are being made to reduce the percentage of accidents all through the industry even further and the institute may be counted on to co-operate with all efforts being made to that end.—Editor.

particular management and each conducted to render its bit of service to society and to realize a compensation commensurate with the effort expended, the capital employed and the risk assumed.

We look to the different divisions of the industry for the services in which they specialize—to the production division to find and capture the oil in its raw or crude state; to the pipe line, tank steamer and tank car divisions to transport the raw material to storage or factory; to the refining division to manufacture the crude oil into usable marketable products; to the tank car, tank steamer, barge and tank wagon divisions to convey the manufactured commodity to wholesale centers and retail market places; to the bulk and service station marketing divisions for delivery to the final and ultimate consumer

Within each of these divisions are multitudinous units each competitive with others to render similar service and obtain public favor and patronage. Each division carries forward the product one stage on its journey to the consumer. Each division must and does assume its proper degree of responsibility for protecting its employees and its public.

Recently I looked over an interesting book entitled "Symbol of Safety." It was the story of the evolution of the Underwriters' Laboratories. In Chapter One, the author reminds us that man was not man until he began to meddle, to seek to change conditions that he found about him, but that out of this meddling or experimentation with nature grew science and civilization.

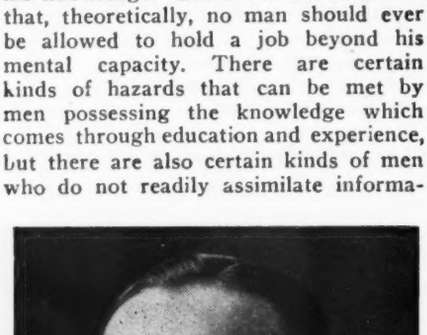
Civilization Increases Hazard

Through the forces of invention and discovery the world moves forward, makes what we call progress. But there are times when the two are in conflict. Men have meddled with nature to improve human living conditions but in doing so they have exchanged the few natural hazards of our early ancestors for a bewildering number of man-made, artificially created dangers.

Science manufactures her products to serve the human race but in the process she also turns out destructive by-products which endanger and imperil the limb, life and property of those in whose service she is engaged. The by-products annually take their formidable toll of life and property. Unfortunate as it may be, in truth this seems to be but another way of saying that the marked increase in loss of life and in bodily injury through accident is but one of the inevitable results of the world's material progress.

We cannot be discouraged at the result of effort, organized or otherwise, to promote and secure the observance of safety, but frequently it seems that whatever man does today to make warfare upon hazard that he, with his new development and its resultant by-products, counteracts tomorrow. The rising tide of innovation and of material progress makes it next to impossible to reduce safety to any mathematical formula. We can state principles but it is an immortal cinch that no man can make or standardize the specifications.

A man's judgment is no better than his knowledge. Some one has observed that, theoretically, no man should ever be allowed to hold a job beyond his mental capacity. There are certain kinds of hazards that can be met by men possessing the knowledge which comes through education and experience, but there are also certain kinds of men who do not readily assimilate information and there is also the kind of men whose experience and familiarity with hazard and risk merely seem to breed contempt for it.



W. R. Boyd, Jr.

Safety Education

I must not pose as a "safety doctor" but in my judgment the fundamental answer to the whole safety problem in a nutshell is the adaptation of safety education and regulation to human nature as it is and as it always will be. The enormous number of known accidents in the United States in a given year is substantial proof of the age-old expression "you can lead a horse to water but you cannot make him drink."

In the development of the thought I am giving you today I have been thinking in terms of an industry's economic responsibility for safety. We may assume that modern management is both human and humane and that as such it is concerned about safety for employees and for public equally with its employees and with its public.

The basis of trade, commerce and industry is strictly economic. Competition is the essence of business. It is that inexorable force which promotes material growth and progress, invention, development, efficiency. It is that vital factor which imposes standards and forces their observance. Men seek, competitively, the best possible return upon their investment no matter whether that investment be in the form of ability to work, of money, of machinery or of materials.

Economically speaking every man produces something for human consumption or to supply some human want and he must meet competitive standards in efficiency and in economy in his use of effort or of capital in whatever form it exists. Therefore it is elemental that the higher the degree of industrial safety, physical and economic, the greater the ratio of efficiency, economy and returns. It obviously follows that the converse of the proposition is also true.

Care Minimizes Dangers

The risk of physical injury, of the loss of life and property is an ever present element in all business enterprise. Due to the inherent nature of our product this risk is magnified in the petroleum industry. Under given conditions there is danger in the handling and in the using of any volatile and inflammable liquid. Under all ordinary circumstances and with the exercise of proper care and common sense petroleum products are handled and are used with perfect safety. Some of our risks are calculable and therefore it is proper that safeguards should be erected to minimize them, some are inherent and some are ineradicable.

The petroleum industry expects and plans to assume the responsibility for those risks which regularly occur and are calculable. No industry should be penalized for risks which are irregular and which cannot be reduced to any law of recurrence. If it is proved, statistically, that when a large body of losses are taken together, the per cent of loss is not unreasonably high and is relatively and fairly regular, then the risk is calculable. This is the principle upon which insurance is founded. The economic point of view allows a maximum calculable tolerance as distinguished from the theoretical point of view which expects 100 per cent perfection.

In theory everything ought to be safe. In fact nothing is safe. Human kind wants to enjoy the fruits of material progress. The great loss of life, limb and property is part of the price we pay. Each year the world spends some two hundred million dollars for matches. This means four trillion, six hundred and seventy-five billions, six hundred and fifty million matches to go up in smoke every year, according to the President of the American Tree Association.

The Toll of Matches

What a tremendous toll in loss of life, personal injury and through fire is charged to the humble match! What potential power to injure mankind and his property exists in the annual production of this necessity! Yet no man would destroy the match industry, because it is an economic necessity and the service it renders far outweighs the evil.

Lightning killed 425 persons in the United States last year. Man-made electricity takes its annual toll. Hundreds are drowned. Hundreds stub their toes,

fall and are killed or injured. Locomotive engines and trains take their enormous pound of flesh. The automobile is a prolific instrumentality for killing and crippling men. Yet the vehicle itself is harmless. This reminds me that some wit has suggested that in a few years states will be paving their streets and highways with banana peels. This would make travel reasonably safe. The traveler or tourist could slide wherever he went. One could slip over from Louisville to Cincinnati in a few minutes. Of course he would be bruised and black and blue but the wit suggests that he would save money by spending the nights in emergency hospitals instead of hotels.

This would be a good idea because one could carry along his own bananas and where roads are unpaved he could quickly do the surfacing. The moral is, of course, that a banana peel is not dangerous until man has meddled with or in other words until he has emptied it.

Hazard, peril, danger besets, encompasses, hems in the human race. Someway, somehow the most of us live. Some of us manage to escape serious bodily injury. At most we can but do our best to minimize the risks and trust to Providence to do the rest.

The National Safety Council is to be congratulated upon the creation of a Petroleum Section, and I am certain that it may depend upon the co-operation and support of the great industry which I am trying to speak for today. Self-preservation is the first law of nature. Service to mankind follows a close second. Our industry wants to live and to serve. The warfare against hazard marks milestones on the road to progress and you may be certain that the men engaged in the petroleum industry will not be among those who cast stumbling blocks in the pathway.

California Oil Companies Improve Roads

LOS ANGELES, Sept. 29.—Before many weeks roll past the ordinary taxpayers of Kern county will be indebted to the oil industry of the San Joaquin Valley for $1,000,000 worth of paved roads, all of the money for which is coming out of the treasuries of the oil companies operating in the valley fields.

Last year the big oil companies in that district got together and figured it out, and found that they were out of pocket hundreds of thousands of dollars per year because of unimproved roads through the oil districts. They were hauling materials, in some instances, 25 miles out of the way in order to follow paved highways.

The result was that they met and agreed upon the formation of a special assessment district for road improvement, all of the expense of the highway construction to come out of the oil companies through the assessment of their lands.

Missouri Oil Men's Plan To Fight 2 Cent Tax

Staff Special

KANSAS CITY, Sept. 26.—The regular fall meeting of the Missouri Oil Men's Association was held at the Baltimore Hotel here today, with the guns of practically all orators turned on Proposal Number Five, which is a state initiative measure covering a two-cent tax on retail gasoline in Missouri, an increase of 50 per cent in motor vehicle license fees, and the speeding up of the $60,000,000 road bond issue which was voted three years ago.

AN EXAMPLE of the length to which a certain class of politicians will go in their efforts to make the oil industry the goat was brought to light at Kansas City recently. A gasoline dealer displayed the card

Gas 15.9
Tax 1.0
Total 16.9

The dealer was approached with the demand that he tear down the sign, and put another in its place, stating simply that gasoline was 16.9 cents. This he refused to do, advising the visitor in vigorous language that the public ought to be fully informed as to where its money was going, and inferring that more than verbal demand was necessary to cause removal of the sign. The politician has not been back.

In his preliminary remarks opening the meeting, President H. G. James told the assembled jobbers the proposed tax measure was one of the most important ever brought before them, and warned them of the unscrupulous politician who was ever ready to profit at the expense of the oil industry.

Mr. James made a strong plea for unity throughout the industry, urging oil men to stop fighting among themselves, and stated that the industry was in its present unsatisfactory condition because of the policy of each individual or group to play a policy of "dog eat dog" with every other individual or group. "With such a condition, how can the public be blamed if it has gotten erroneous ideas about our business?" he asked.

"The Business Man's Side of the Proposed Gasoline Tax" was the subject of a paper read before the meeting by W. R. McCain, President of the Purity Oil Co., Springfield, Mo., in which he asserted that the tax would be a direct blow at the farmer, as well as the laborer and business man.

"With the people of the state paying $38,000,000 more in taxes to the state in 1923 than in 1900, if the public interest is to prevail, can't enough be used to maintain the roads which the bond issue of $60,000,000 is to build. We oil men insist that it can. We demand not only that the roads be built and maintained out of present funds but that we also have a substantial reduction in taxes," he said.

Asa W. Butler, State Oil Inspector, told the jobbers that his department was at all times ready and willing to cooperate with them on any business coming under its jurisdiction. He pointed out the necessity of all citizens taking more interest in public affairs, and cited the decrease in registrations of voters among the better class of Kansas City resident, compared with the increased registration of other classes, as an evidence of the increasing indifference in the conduct of government.

At the suggestion of the Oil Inspector, W. R. McCain was appointed chairman of a legislative committee to work with that department in the administration of the gasoline tax inspection law. Appointment of other members was left open.

J. A. Davis, of the Kansas City Team and Track Owners Assn., addressed the meeting on "The Gasoline Tax as Viewed by the Large Consumers."

Harry Sharp, representing the Associated Industries of Kansas, spoke on the proposed amendment to the Kansas constitution permitting a state gasoline tax. He stated that the gasoline tax was unfair and that Associated Industries would make every effort to defeat it.

E. J. Kenkle, secretary of the Kansas Automobile Owners Assn., stated that the auto owners of the state were in favor of the tax only if it supported a state highway construction program, as against a county unit system. He stated that the Kansas tax must be in the form of a constitutional amendment to settle the matter beyond any change by succeeding legislation.

The night session was addressed by L. S. Collins, of the L. S. Collins Oil Co., Knoxville, Iowa, and by Dr. Marion Nelson Waldrip, of Kansas City.

Feature Road Courtesy

OMAHA, Sept. 16—A great deal of favorable comment has been stimulated from the motorists of Omaha by a recent happy thought of Stockton Heth, head of the Nicholas Oil Corp. The thought was a motto for the back end of a truck. Instead of utilizing the space on the back end of the company's heavy tank trucks to advertise Nicholas oils and gasoline, the space is used to deliver a message to the man who may be driving behind.

Schedule Adds Two "Stabilized" Grades Of Natural Gasoline

TULSA, Sept. 27

IN LINE with recent changes in manufacturing practice in the natural gasoline industry, resulting in the production of higher gravity and higher recovery gasoline, the Association of Natural Gasoline Manufacturers has adopted a new schedule of standard specifications. The new list will become effective on Oct. 1 according to the announcement of A. V. Bourque, secretary.

In its new list the association has dropped Grade D entirely. Grade D. was 88-92 gravity gasoline which has been produced in smaller and smaller amounts as the refiners demanded and the industry was able to produce more stable products.

Two new grades are added to take care of the gasoline produced by various types of "stabilizers" or fractionating devices which eliminates dissolved gasses from the finished gasoline. The two new grades will be known as Double A and Double B.

Grade Double A gasoline will range in gravity from 80 to 97.9 Be. with a recovery of not less than 90 per cent and an end point not over 375 degrees F. Grade A is virtually unchanged. Former specifications for this product called for a gravity ranging from 72 to 78 Be. The new Grade A will range in gravity from 72 to 79.9, will have a recovery of at least 90 per cent and an end point not over 375.

Grade Double B will range in gravity from 84 to 92 Be., have a recovery of at least 85 per cent and an end point not over 375 degrees F. This product is similar to Grade Double A in that it is a high gravity, high recovery product Grade B is slightly changed in gravity range, the new product permitting a range from 76 to 83.9 Be. while the recovery remains unchanged at not less than 85 per cent and the end point at not over 375 degrees.

A little wider latitude in gravity is permitted in the new Grade C. This product may range from 80 to 90 Be. Recovery is unchanged at not less than 78 per cent and the end point limitation has been changed from a maximum limitation of 350 to a maximum of 375 in common with the remaining grades to be offered by the industry.

During the past winter the industry began producing large quantities of gasoline which met the recovery requirements of Grade A and Grade B but were much higher in gravity than the former specifications. These products, resulting from improved plant practice, resulted in considerable confusion in marketing. The present Grades Double A and Double B have been represented by substantial production for more than a year but have not been officially recognized and given a name until now.

Following is the official list of specifications adopted by the executive committee of the association after several months of discussion:

Grade "Double A"	Recovery	Not less than 90%
	End Point	Not over 375°F
	Gravity	80.0 to 87.9
Grade "A"	Recovery	Not less than 90%
	End Point	Not over 375°F
	Gravity	72.0 to 79.9
Grade "Double B"	Recovery	Not less than 85%
	End Point	Not over 375°F
	Gravity	84.0 to 92.0
Grade "B"	Recovery	Not less than 85%
	End Point	Not over 375°F
	Gravity	76.0 to 83.9
Grade "C"	Recovery	Not less than 78%
	End Point	Not over 375°F
	Gravity	80.0 to 90.0

"The color of all products must be water white, plus 25 Saybolt chromometer. All tests are to be made in accordance with the latest approved methods of the American Society for Testing Materials, with the additional provisions which follow and which are expected to be adopted by the A. S. T. M. in the tentative standard distillation test of natural gasoline.

"Samples should be held and measured at a temperature of 32 to 40°F. The temperature of the condenser bath should be maintained between 32 and 34°F stirring or agitating with an air jet to insure circulation. The receiving cylinder may be surrounded in an ice water bath between 32 and 40°F. The heat shall be regulated so that the first 10 cc of distillate shall be recovered in not less than three nor more than four minutes and the rate thereafter, maintained uniformly at not less than four nor more than five cc per minute. When the liquid residue in the distillation flask is approximately five cc., the heat may be increased because of the presence of heavy ends which have relatively high boiling points. However, no further increase of heat shall be applied after this adjustment. The four to five cc rate cannot always be maintained from this point to the end of the distillation, but in no case should the period between the point when approximately five cc of the liquid remains in the flask and the end point be more than five minutes. The heating shall be continued until the mercury reaches a maximum and starts to fall consistently. The highest temperature observed on the distillation thermometer shall be recorded as the maximum temperature or end point. Usually this point will be reached after the bottom of the flask has become dry.

"All products shall be shipped according to regulations of the I. C. C. which follow the Bureau of Explosives regulations and methods of tests. The I. C. C. regulations provide as follows in regards to vapor tension.

"Paragraph 412. (a) **Casinghead Gasoline.**—Liquid condensates from natural gas or from the casinghead gas of oil wells, made either by the compression or absorption process, alone or blended with other products, must be described as **casinghead gasoline** when the vapor pressure at 100°F. (90° Nov. 1 to March 1) exceeds 10 pounds per square inch, and does not exceed 20 pounds. Such products must be shipped in insulated class 4 tank cars.

"Paragraph 412. (c) When the vapor pressure of such condensates or blends does not exceed 10 pounds at 100°F. (90° Nov. 1 to March 1,) these condensates or blends must be described as **gasoline.** Such products may be shipped in ordinary Class 2, or class 3 tank cars, or in insulated class 4 tank cars."

Total Petroleum Exports For August And Eight Months This Year

	Exports in Aug. 1924	Change over July 1924	Change over Aug. 1923	8 months ended Aug. 1924	Change over 8 Mos. ended Aug. 1923
Crude (bbls.)	1,143,694	−230,605	−366,815	11,958,924	+1,183,877
% Change		−16.7%	−24.2%		+10.9%
Refined Prod. (gals.)	346,485,891	+18,901,902	+53,036,497	2,116,575,226	+497,397,293
% Change		+5.7%	+18.07%		+23.5%
Gasoline (gals.)	108,845,380	+22,403,896	+32,056,189	789,879,620	+227,986,188
% Change		+25.9%	+41.7%		+40.5%
Kerosene (gals.)	66,956,168	−13,522,158	−12,581,982	586,189,115	+43,644,569
% Change		−16.8%	−15.8%		+8.4%
Gas & Fuel Oil (gals.)	141,651,739	+5,858,263	+26,888,794	971,459,292	+197,145,811
% Change		+4.3%	+23.4%		+25.4%
Lubricating Oil (gals.)	29,032,604	+4,161,901	+6,683,496	266,444,492	+28,620,725
% Change		+16.7%	+29.9%		+12%
Paraffin (lbs.)	26,917,121	+786,214	+3,146,083	258,544,273	+40,224,214
% Change		+3%	+13.2%		+18.4%

Value of crude exported in August totaled $1,629,534, or $1.42 per barrel, covering all methods of shipment, as compared with $1.51 in July, and $1.32 in August, 1923.

Value of total refined products exported in August amounted to $32,589,767, or an average value of 9.4 cents per gallon, as compared with 9.1 cents in July and 9.2 cents in August, 1923.

Value of gasoline exported in August was $14,706,375, or 13.5 cents per gallon, as compared with 14.9 cents in July, and 15.5 cents in August, 1923.

Value of kerosene exported in August was $6,958,041, or 10.5 cents per gallon, as compared with 8.8 cents in July, and 8.4 cents in August, 1923.

Value of gas and fuel oils exported in August was $4,541,804, or 3.2 cents per gallon, as compared with 3.01 cents in July, and 2.7 cents in August, 1923.

Value of lubricating oil exported in August was $6,383,547, or 22 cents per gallon, as compared with 22.9 cents in July and 23 cents in August, 1923.

Value of paraffin wax exported in August was $1,369,763, or 5 cents per pound, as compared with 5.1 cents in July, and 3.4 cents in August, 1923.

Prairie Cuts Low Gravity Crudes; High Gravities Unchanged

By A. F. Hinton
STAFF REPRESENTATIVE

TULSA, Sept. 27.

THE PRAIRIE OIL & GAS CO. works in dark and devious ways its wonders to perform.

Just when the oil industry thinks it has the outfit pegged, and begins therefore to make confident predictions as to what the future holds in store, the company steps out and does exactly the opposite thing to that which was expected of it. It has been doing this for a long time, but it retains its element of surprise, nevertheless.

Who would have thought, for instance, that the Prairie would come out with a new schedule of crude prices, under which it cut low gravity crudes and maintained high gravity unchanged, adding an extra grade to accomplish this result? For some time past, it has been apparent that higher gravity crude was the main object of attack in the present epidemic of price reductions, and that the tendency was toward fewer grades of crude, rather than more of them.

That is what the Prairie did, however, when it announced its new prices, effective this morning, as follows:

Gravity	Old Price Effective Sept. 17	New Price Effective Sept. 27
Below 30	$0.85	$0.75
30-32.9	1.00	0.90
33 and over	1.25	
33-35.9		1.10
36 and over		1.25

Thus, oil of 36 degrees gravity and over is unchanged in price at $1.25, while that running from 33 to 35.9 is cut 15 cents. The two lowest grades are each reduced 10 cents. No announcement concerning purchase of oil that has been stored to producers' account accompanied the new prices, and it was stated at the Prairie offices here that the present policy of paying for half and storing half would be adhered to for the present.

Although a cut in the price of crude was by no means unlooked for, as it was not seriously thought anywhere that the bottom had been reached when the reduction was announced Sept. 17, the addition of a new grade and the failure to reduce high gravity crude came as a complete surprise to the industry, and to say that it has everybody guessing is stating it mildly. This is evidenced by the fact that not all of the other major crude buyers had met the new prices up to noon Saturday, indicating that they desired more time to think the matter over. The Gypsy Oil Co. promptly met the new prices as did the Empire. Before the day was over they were met by all principal crude purchasers except Kay County Gas Co., Marland subsidiary.

Texas Co. Buys Stored Oil

The Prairie's crude reduction followed closely upon the announcement by The Texas Co. that it would purchase in north Texas the oil it has been storing to producers' accounts, and the resumption by Kansas refiners of a run-all and pay-all method of buying crude. The Texas Co. had lifted its proration edict Aug. 28, when it started paying for all oil run, but not until Sept. 26 did it announce its willingness to buy the crude that had been stored under the half-payment plan. Houston dispatches stated the company had agreed to waive the 3-cents a barrel monthly storage charge on this crude if the owners accepted the company's offer to purchase by Oct. 10.

It is believed by many that the Prairie's next step will be a similar announcement of its willingness to pay for all oil run and to buy oil stored with it under the proration plan, but apparently the main basis for this belief is that the wish is father to the thought. The idea is that, when the Prairie does so announce, crude prices will be on bottom, with no place to go but up. However, unless the Prairie's sales, as reflected by its pipe line shipments to the east, pick up with remarkable rapidity, it is hard to see how it is going to dispose profitably of the vast amounts of crude it has been placing in storage since its proration plan has been in effect.

Prairie's Storage Full

It is thought that the Prairie's storage capacity is as nearly full as the company ever allows it to get, and that it has been placing something like 50,000 barrels a day in storage for the past two months. In the meantime, its sales have fallen to their lowest point in several years. With such conditions facing it, it does not seem unlikely at this writing that the Prairie will again cut the price and return to its former plan of a real proration, cutting its runs down to its actual daily sales. This has been its method of curtailing its takings in times past when it has found its storage capacity uncomfortably crowded, and it will return to it unless it can manage to get back some of its lost eastern market. The one gleam of hope in the situation at present is that possibility that Oklahoma's production is about to show a sharp decline, and that is the one thing needed above all others at this time to bring about more stable conditions in the Mid-Continent. With production at its present level, it seems that a cheerless winter is in prospect for Oklahoma producers.

Oklahoma production has now been almost stationary for three or four weeks, with only small increases or decreases affecting it one way or the other, and would have declined at least 30,000 barrels a day had it not been for the phenomenal rise of Tonkawa as a result of the deep sand development. This field rose to nearly 115,000 barrels a day, and came along just at the time that Cromwell, which had been the chief factor in increasing the state's output, was starting into a precipitate decline which carried it from 65,000 barrels to 42,000 barrels a day in three weeks.

Tonkawa Danger Passed

It seems practically certain now that Tonkawa has about shot its bolt, and that it will not again exceed the figure already mentioned as its peak. At present, it is down to around 108,000, losing nearly 4000 barrels in the past week in spite of the completion during that time of three new deep wells each making better than 2500 barrels. The field probably will hover somewhere around its present figure for several weeks, until all the wells now drilling have been completed, after which there is little doubt that it will go off very rapidly.

The only remaining threat in the situation, after admitting that Tonkawa had done all the damage it could, is the problematical course of production at Cromwell when the larger number of wells now drilling in the northwest extension have been drilled in. Most of these wells will be in within the next 30 days, many of them in the next two weeks. It may be that their effect will be to double the field's present production, and if they do, it is likely that they will come along just in time to offset the decline at Tonkawa, which probably will be under way at that time.

Thus, the only hope for Oklahoma to register a decided decline in production within the next few weeks is for Cromwell to fail to come up to expectations. If drainage and dissipation of gas pressure in the older portion of the field have been severe enough to affect the new territory, the field as a whole may not come back as strongly as is anticipated, which would be the best thing that could happen to the producing division of the industry at this time.

Oklahoma's production declined 2355 barrels the past week, and is estimated

now at 540,980 barrels daily, thus setting a record of being more than 535,000 barrels a day for five successive weeks. The past week's decline was brought about by large losses at Cromwell, Stroud, and Tonkawa, but the full effect of these decreases was tempered materially by an unexpected gain at Burbank and a continued increase of the Papoose field, Hughes county. If Burbank had maintained the even tenor of its way, declining gradually as it had been doing for many weeks past, the state would have gone off better than 8000 barrels last week.

Burbank added 12 new wells to its total the past week, or 1604 for the entire field, and these wells were sufficient to increase the field's daily average 4720 barrels, to 77,270 barrels. Papoose averaged 15,450 barrels daily, an increase of 2220 barrels over the preceding week, and brought its total of producing wells to 52, a gain of three.

Cromwell, although four new wells were added, bringing its total to 97, declined 2680 barrels, averaging 42,100 barrels a day over the week. Stroud, which seems to be headed for oblivion, continued to decrease, going off 1290 barrels to 14,260 barrels daily, in spite of the fact that three new wells were brought in, making its total 55. Wewoka, with 73 wells, as compared with 72 last week, went off 630 barrels, and averaged 6900 barrels daily.

Tonkawa, with six more wells than last week, was unable to keep its output up, and declined 3800 barrels to a daily average of 108,500 barrels, from 702 wells. Of this amount, 23,800 barrels are produced by 671 shallow wells, while 31 deep wels ended the week producing 83,700 barrels. At the start of the week, 29 deep wells were producing 85,320 barrels daily, so that the deep sand output declined 1620 barrels over the week, in spite of the addition of three new wells. It went up to 86,450 barrels from 31 wells on Tuesday, but by Friday had fallen again to 82,620 barrels from the same number of wells. The average for the week of the deep sand wells was 84,660 barrels, as compared with 85,500 barrels for the preceding week. The peak production of the deep wells remains 86,740 barrels, which was attained Sept. 14, from 25 wells. Thus, 31 of these wells are now producing 3020 barrels less than 25 wells were producing two weeks ago.

Wells Completed

In Oklahoma, during the past week, 88 wells were completed, of which 59 were oil wells, six were gas wells, and 23 were dry holes. These figures compare with those of last week, when there were also 88 completions, divided 40 oil wells, seven gas wells, and 41 dry holes.

The 59 oil wells included in this week's report had a total initial production of

Completions In Oklahoma And Kansas Week Ending September 27, 1924

OKLAHOMA

Carter County—Graham

Company	Well No.	Location	Depth	Initial Production
Fox	1	SEc SE NE NW 23-2S-3W	2654–2750	50
Magnolia	4	C NE SW NE 23-2S-3	2418–2424	50
Magnolia	5	C SW NW SW 24-2-3	1468–1470	6M
C. R. Smith	8	C NE SW SW 26-2-3W	3270–3300	30
Rockland	6	C SE SW NW 35-2-3	2112–2254	125
Cotton Belt	7	C NE SE SW 30-2-2	2560–2575 OWD	75
Humble	2	C SW SW NW 32-2-2	2675–2715	45
Humble	1	C SW NW SE 24-2S-3W	T.D.3323	Dry

Carter County

Amerada	16	SEc NE SW NE 20-5S-1E	1702–1373	250
Simpson-Fell	1	C SW SW SE 20-1S-3W	T.D.3514	Dry

Cotton County

Woods-Staley	1	SEc SW SE 22-5S-12W	T.D.2501	Dry

Creek County—Stroud

Farren-Woods	3	NEc SW NW 7-14N-7E	4110–4128	620

Creek County—Mounds

S. W. Anthony	1	Lot 13, Blk 24, 8-16-12E	2072–2082	210
Riverland	8	CWL SE SE 8-16-12E	2360–2375	100
Riverland	10	NEc SW SE 8-16-12E	2352–2368	150
Harris-O'Hare	1	Lot 4, Blk 23, 8-16-12	2040–2068	210
Gawland et al	1	Lot 3, Blk 26, 8-16-12	2052–2058	50
Bowen et al	1	Lot 2, Blk 35, 8-16-12	T.D.2453	Dry

Creek County

Tibbens	10	CSL SW SE 26-14N-8E	2499–2552	10
Howard et al	3	NWc NW 16-16-9E	3026–3054	100
Pure	1	SEc NE NW 29-15N-9E	3027–3100	40
Wolverine	5	SEc SW SW 22-15N-10E	2693–2722	100
Phillips	1	SEc NW 24-14N-9E	2935–2950	595
Hall-Donnelly	1	NEc SE SW 17-14N-10E	3392–3396	408
Skelly	4	SWc SE NW 10-18N-10E	T.D.3404	Dry
Hart-O'Laughlin	1	NWc 31-17N-11E	T.D.2881	Dry
Jackson-Daniels	1	NEc NE SE 8-14N-10E	T.D.3381	Dry

Hughes County—Papoose

Kingwood	5	C NE SW SW 3-9N-9E	3295–3320	540
Foster-Johnson	2	C SW NW NE 4-9-9E	3309–3336	70
Foster-Johnson	1	C SW SW NE 4-9-9	3325–3329	800
Papoose	8	C SE SE SE 4-9-9	3300–3307	420
Papoose	10	C NW NE SE 4-9-9	3324–3344	20
Robinson-Amerada	2	C NE SE NW 4-9-9	3342–3348	1035
Transcontinental	2	C NE SW NE 4-9-9	3304–3323	60
Transcontinental	4	C SW NE NE 4-9-9	3308–3314	800
Transcontinental	5	C SE SW NE 4-9-9	3312–3328	840

Hughes County

Prod. & Ref	2	NWc 4-7N-8E	3157–3181	70

Kay County—Tonkawa

Comar	B-W	C SE NW SW 35-25N-1W	3918–3950	2437
Phillips Pet	1	CSL SW NE NE 34-25N-1W	T.D.2001 OWD	Dry

Lincoln County—Stroud

J. A. Hull	6	CSL SE SW NW 12-14N-6E	4138–4160	100
Bailey et al	1	NWc SE NW 12-14N-6E	4085–4135	408

Muskogee County

E. C. Robinson	3	CSL SE NW 27-1N-15E	704– 710	1M
Vallentine	3	SWc SE SE 29-14N-16E	T.D. 300	Dry

Noble County—Tonkawa

Comar	6-W	C NW NE NE 3-24N-1W	4218–	3296 av. 7 days

Okfuskee County

Wedell-Indep	1	C SW SW NE 35-10N-8E	T.D.3611	Dry
Skelly-Cosden	1	NWc SE 1-10N-9E	T.D.3376	Dry

Okmulgee County

E. R. Black	2	SWc NW SE 10-12N-12E	T.D.3234 OWD	Dry
Becker et al	1	CEL NE NW 3-14N-13E	2003–2013	4½M
F. D. Misener	13-B	C NE SW 16-14N-14E	1695–1709	40
F. D. Misener	6-A	NEc SW SW 16-14N-14E	T.D. 828	Dry
McGranahan	4	CSL NW NW 14-13N-14E	T.D.1920	Dry

Osage County

Company	Well No.	Location	Depth	Initial Production
I. T. I. O	1	SW NW NE 1-21N-8E	2325–2410	3
J. C. Stine	5	SEc 9-21N-12E	1748–1750	3
Marland	2	C SW SE NE 20-23N-8E	2643–2645	35
Winona	3	NE SE 20-29N-9E	1516–1541	12
Chocben	1	NW NE 15-21N-10E	T.D.1976	Dry
Stineberg et al	1	NW SE 19-22N-11E	T.D.2089	Dry
Owen-Osage	301	NEc 22-28N-11E	T.D.1844	Dry

Osage—Burbank

Carter	3	SE SW NW 11-27N-5E	2951–3010	710
Carter	1	SW NE 13-27-5	2949–3005	345
Carter	2	C SE SW NW 13-27-5	2945–3005	390
Phillips	4	SE NE 14-27-5	2997–3047	300
Phillips	9	C SW NW NE 14-27-5	2971–3028	100
Texas Co	1	SE NW 18-27-6	2880–2968	40

Pawnee County

Watchorn	9	C SW SE SW 33-23N-3E	4079–4104	1407
Texas	1-A	NWc 27-20N-6E	T.D. 340	Dry

Pontotoc County

Wilcox	1	SWc NE 28-3N-4E	T.D.1082	Dry
Empire	1	C SE SE 4-2N-7E	T.D.3208	Dry

Seminole County—Cromwell

Transcont.-Sinclair	1	C SE SW SW 9-10N-8E	3434–3473 OWD	2689
Roxana	1	C SE NE NW 10-10-8	3018–3028	2M
Gilliland et al	5	C NW NW NE 16-10-8	3457–3507	980
Carter	2	C NE SE NW 16-10-8	3472–3505	1582
Waite Phillips	1	C NE NE SW 16-10-8	3479–3520	1050
Shaffer	7	C SE NE NW 22-10-8	3421–3500	75, 2M
Shaffer	8	C NE SE NW 22-10-8	3400–3485	4412
Carter	1	C NW NE SW 22-10-8	3433–3449	30, 30 w.
Berry	2	C SW NW NE 22-10-8	3334–3339	20

Seminole—Wewoka

Homaokla et al	1	C NE SW SE 29-8N-8E	3186–3192	200
Magnolia	1	C SE SE SE 30-8-8	3200–3208	475
Ramsey	1	NWc SE SE 30-8N-8E	3267–3270	30
Magnolia	3	SWc SE NW 32-8-8	3220–3225 OWD	775
Dixie	1-A	SEc NW NE 32-8-8	T.D.3212	Dry

Tulsa County

G. C. Shaw	1	NEc NW NW 18-19N-14E	1380–1400	2
Edwards et al	1	SEc NE SE NE 2-18N-12E	2280–2296	50

Wagoner County

Perry et al	1	SEc NE NE 18-17N-16E	976– 979	6.5M
A. L. Burwell	2	SWc SE 9-18N-16E	1100–1102	7M
T. W. McCurray	1	NEc NW SW 21-17N-17E	T.D. 449	Dry
Stryker	4	NWc SE NE 18-18N-16E	T.D. 720	Dry

KANSAS

Butler County

Dutton et al	1	NWc SW 17-28-8E	T.D.2803	Dry

Cowley County—Rainbow Bend

Waite Phillips	1	NEc SE 6-33-3E	T.D.3842	Dry

Elk County

Roth et al	2	NWc NE SE 14-29-8E	T.D.3207	Dry

Greenwood County

Miller et al	2	SEc NE NW 27-2-9E	T.D.2368	Dry
Derby-Davis	1	NEc 13-22-10E	2142–2150	25
Roger-Mission	6	SEc NE NE 22-24-9E	2170–2190	40
Roger-Mission	4	NWc SW NW 23-24-9E	2141–2197	209
Roger-Mission	5	SWc NW NW 23-24-9E	2133–2192	60
Bisagna et al	2	C NW NE NE 6-25-13E	1537–1562	40

Montgomery County

Tolbert et al	1	NEc SE NE 14-33-14E	T.D.1673	Dry

Osborne County

Liggett et al	1	NWc 34-10-15W	T.D.3602	Dry

Montgomery County

Kors et al	1	CSL SW SW 12-33-16E	1377–1378	240

Drilling Operations in Oklahoma, Kansas and N. Texas Sept. 27

	Sept. 27 Week Ending					Sept. 20				
OKLAHOMA	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
Burbank	6	9	66	3	84	9	10	66	3	88
Other Osage	8	11	53	17	89	8	12	53	18	91
Bristow-Cushing	3	23	93	38	157	8	17	100	29	154
North Oklahoma	7	9	64	57	137	10	6	58	64	138
South Oklahoma	10	12	96	73	191	9	17	95	76	197
Muskogee	..	6	29	33	68	..	9	38	28	75
Okmulgee-Bristow	..	42	89	57	188	..	47	94	55	196
Tonkawa	1	13	75	7	96	..	14	67	7	88
Wewoka-Cromwell	13	25	251	36	325	20	62	235	34	351
Total Oklahoma	48	150	816	321	1335	64	104	806	314	1378
KANSAS	40	58	181	109	388	38	50	170	111	369
NORTH TEXAS										
Eastland County	..	2	11	14	27	..	2	11	14	27
Stephens County	..	20	30	37	87	..	22	35	35	92
Texas Panhandle	..	4	23	15	42	..	4	23	15	42
Mexia District	..	11	16	11	38	..	13	21	16	50
E. Texas Wildcats	..	9	8	32	49	..	7	8	30	45
W. Texas Wildcats	..	62	120	108	290	..	49	123	107	279
Total N. Texas	..	108	208	217	533	..	97	221	217	535
GRAND TOTAL	88	316	1205	647	2256	102	341	1197	642	2282

29,869 barrels, an average initial per well of 506.3 barrels. Last week, 40 wells brought in 28,242 barrels of new production, with a per-well average of 706.05 barrels. The average initial of Oklahoma wells has gone up noticeably in the past few weeks, due, of course, to the many large wells drilled in at Tonkawa and Cromwell, many of which are included in this week's list.

Wells reported completed in Kansas this week totaled 12, of which six were oil wells and six were dry holes, with no dry holes. Last week, there were 16 Kansas completions, divided nine oil wells, one gas well, and six dry holes. The six oil wells included in this week's report had a total initial production of 614 barrels, an average of 102.3 barrels per well. Last week, nine wells brought in 1353 barrels of new production, with a per-well average of 150.3 barrels.

Field Operations

It is evident that field operations in the Mid-Continent have about reached bottom for the time being, as they have been holding about steady for two or three weeks past, after having declined steadily for some time previous to that. At present, there are 1335 operations under way in Oklahoma, of which 48 are locations, 150 are rigs, 816 are drilling, and 321 are shut down. This is an increase in rigs, drilling, and shut downs over the preceding week, when there were 1378 total operations, divided 64 locations, 104 rigs, 806 drilling, and 314 shut down.

The Wewoka-Cromwell, with 251 drilling wells this week as compared with 235 last week, shows the largest increase, while Tonkawa also gained, with 75 drilling wells as against 67. Other changes in the state were only minor in number, with increases and decreases about evenly divided. Kansas drilling wells also increased, going from 170 to 181, while total operations jumped from 369 to 388. In north Texas, there was an increase of new rigs and locations, but a decline in drilling wells.

Tonkawa Deep Sand Development

With 31 wells completed and producing in the deep sand at Tonkawa, several are nearing the sand as the week closes, and will be added to the list of completions within a few days. The latest well to get the sand is Comar Oil Co. No. 1-W Ogg, in the SWc SE¼ of 35-25-1W. This well encountered gas at 4125 feet, and had 1800 feet of oil in hole at 4130 feet. It is drilling ahead in sand.

The south offset to this well, the Comar's No. 1-W Gaume, is one of the biggest producers in the deep sand, as it is making 7175 barrels in sand topped at 4030 and drilled to 4071 feet. This well was making about 6000 barrels before being deepened during the past week. It is evidently about 90 feet higher structurally than the Ogg well, although only about 600 feet from it. The structure goes off rapidly in this direction, dropping something like 500 feet in three-quarters of a mile to the Koffenbrink dry hole in the NE¼ SW¼ of 36, which was abandoned at 4516 feet.

The Wentz well, No. 45 McKee, which came in as a 10,000-barrel producer, has now been drilled to a total depth of 4174 feet, and is still producing 7340 barrels daily. This company's No. 18 on the same farm, one location south of No. 45, is making 4060 barrels a day. The Wentz No. 29 McKee, in the SEc SW¼ of 34, was drilling in sand at 4133 feet at last reports, but had not been placed on production.

The 31st deep well in the field was Comar Oil Co. No. 11-W Carmichael, in the SEc NE¼ NE¼ of 3-24-1W, a quarter mile south and a location west of the original Slick well. Topping the sand at 4254 feet, it started off at 180 barrels an hour when drilled to 4260 feet. Its production at present, however, has fallen to 1775 barrels daily. The company's No. 4-W on this farm is producing 1320 barrels, and No. 6-W is producing 2860 barrels.

Performance of the Tonkawa deep wells during the past week was as follows:

Date	Production	No. of Wells	Average Per Well
Sept. 26	83,720	31	2,700
Sept. 25	82,620	31	2,660
Sept. 24	85,740	31	2,770
Sept. 23	86,450	31	2,780
Sept. 22	84,135	30	2,810
Sept. 21	85,320	29	2,940

The thirtieth deep well was also the first deep sand completion of the Amerada Petroleum Corp., being its No. 33 Goltry in the SEc W½ NE¼ of 34-25-1W, a west offset to the Blackwell Oil & Gas Co.'s No. 1-C Endicott, which was one of the early deep sand wells in the field, and which is still producing 3150 barrels daily. The Amerada well topped the sand at 4006 feet, and is making 3050 barrels at total depth of 4009 feet.

Important Cromwell Tests

Several extension wells at Cromwell are getting down to depths where they will soon have a great deal to tell as to the fields final area, and their progress is being followed with much interest on that account. The most important of these, probably, is the Laurel Oil & Gas Co. No. 1 Fixico, in the SEc SW¼ NW¼ of 4-10-8, a half mile west and the same distance north of the Central National well in the same section, which extended the field one mile to the north when it was drilled in some time ago. The Laurel well topped the lime at 3405 feet, according to reports, with nothing showing, and was shut down awaiting arrival of small tools to drill in.

Another important test is the Tidal Oil Co. No. 1 Bruner, in the NEc NW¼ NE¼ of 17-10-8, about a mile northwest of production. This well topped the sand at 3489 feet and was pulling the big pipe preparatory to drilling in at last reports. If a good well is brought in at this location, it will prove up a large intervening area, and if both it and the Laurel well are good producers, the field will assume a major aspect as to area.

An east-side test now at an interesting depth is the Waite Phillips Co. No. 1 Tiger, in the SWc NE¼ NE¼ of 15-10-8, which is drilling at 3500 feet. The Burke-Greis No. 3 Brown, in the SEc SE¼ SW¼ of 10, made 600 barrels of oil and 20 million feet of gas in sand topped at 3419 feet and is drilling ahead at 3509 feet.

In the vicinity of the big McMan Oil & Gas Co. well in the NW¼ NW¼ of 16, which is making 2530 barrels, the Superior Oil Corp. is drilling in three new wells on its Baker farm of 60 acres in the NW¼ of the same section. Its No. 3, in the C NW¼ NE¼ NW¼, an east offset to the McMan well, got the sand at 3415 feet, and at 30 feet in was flowing 60 barrels an hour. Its completion is held up by a fishing job, the tools having been dropped in the hole. This company's No. 2, in C SE¼ NE¼ NW¼ of 10, is making some gas and drilling ahead at 3463 feet, after topping the sand at 3457 feet. Its No. 6, on the same farm, is also reported to be on top of the sand.

The Roxana Petroleum Corp. No. 1 Berryhill, in the NEc SE¼ NW¼ of 10-10-8, a southwest offset to the big gas well of the Shaffer Oil & Refining Co., which was one of the early wells in the field, is making 80 million feet of gas and reported to be spraying some oil, at three feet in sand encountered at 3320 feet. The Shaffer well, which was a 62 million-foot gasser, and which burned for 12 days several months ago, is being drilled deeper in search of the oil sand.

Completions North-Central Texas District Week Ending September 27, 1924

PANHANDLE DISTRICT

Carson County

Company	Well No.	Lease	Depth	Prod.
Skelly Oil Co.	1	Burnett	3050	600

WICHITA FALLS DISTRICT

Wichita County

Company	Well No.	Lease	Depth	Prod.
Underwood Drilling Co.	4	McCarty	1690	100
United Central Oil Corp.	12	McCarty	1690	260
Homer Lee et al	1	McCarty	1700	210
Griswold Oil Corp.	5	Parker	1270	40
Griswold Oil Corp.	6	Parker	1270	35
Griswold Oil Corp.	7	Parker	700	15
Underwood & Church	6	Maer	790	30
Empire Gas & Fuel	4	Pierce Oil Corp	1565	200
Rio Bravo Oil Co.	4-c	Fee, Lease E	1050	Aband.
Humble Oil & Ref.	3	Burnett et al	2110	Aband.
Section 2 Oil Co.	3	Burnett et al	1590	75
Couch et al	9	Donehoo	1330	40

Knox County

Company	Well No.	Lease	Depth	Prod.
White Oil Corp.	1	Ward	2825	Aband.

Baylor County

Company	Well No.	Lease	Depth	Prod.
Independent Oil Co.	1	Robertson Co. Lands	2520	Aband.

Archer County—North

Company	Well No.	Lease	Depth	Prod.
Tex-O-Kan Oil Co.	3	J. H. White	1600	35
Simms Oil Co.	4	A. P. Nichols	1615	30
Kentucky Oil Corp.	1	W. F. Parrish-C	1600	80
Kentucky Oil Corp.	1	W. F. Parrish-B	1635	Aband.
Jess Shipley et al	1	J. B. Miller	1635	Aband.
Roy I. Carter	2	J. H. White-E	1600	125
Roy I. Carter	3	J. H. White-E	1605	150
Ray-Featherstone	4	A. P. Nichols	1615	60
Ray-Featherstone	5	A. P. Nichols	1610	100
Staley & Wynne	7	L. F. Wilson-C	1610	150
Shappell Oil Co.	14	J. L. Jackson	1805	120
Texhoma Staniforth	7	Kemp & Kempner	1790	60 bbls.oil, 120 bbls. w.

Archer County—South

Company	Well No.	Lease	Depth	Prod.
Carey Drilling Co.	1	Hausler	1125	75
Shamrock Oil Corp.	11	Goldsmith	1345	140
Consolidated Oil Co.	3	Ragle-B	1085	90
Consolidated Oil Co.	3	Ragle-D	1095	90
Consolidated Oil Co.	1	Davis	1095	130
Sunshine Consolidated	2	J. H. Key	1410	Aband.

Clay County

Company	Well No.	Lease	Depth	Prod.
Shelton Oil Co.	1	Boddy	1230	60 nnls., half w.
Crude Oil Syndicate	1	Kinder	1200	temp.aband.
Hart & McKenna	1	Stine	1950	Aband.
Knox Finley Dev. Co.	1	Howell	1260	Aband.

Richland

Company	Well No.	Lease	Depth	Prod.
W. B. Tucker & Fox	5	Davis	2975	1200
The Sun Oil Co.	1	A. N. Brown	2980	shut down
The Sun Oil Co.	14	Brown	2950	1000
Atlantic Oil Producing Co.	3	Swink	2990	300
C. A. Tucker	3	Davis	2980	1250

Powell

Company	Well No.	Lease	Depth	Prod.
Birdwell & Gray	1	G. Boyd	1000	15
U. S. Tex Oil Corp.	1	Ramsey-A	1600	80
T. & B. V. R. R. Co.	8	Harvard	1040	15

GENERAL RANGER TERRITORY

Young County

Company	Well No.	Lease	Depth	Prod.
McLean et al	1	Durham	1270	Aband.
McGarr et al	1	Johnson	3850	flowing 100 bbls. after 95 qt. shot still cleaning out.

Stephens County

Company	Well No.	Lease	Depth	Prod.
Root et al	1	Yoes	1830	3 mi. ft.gas, shot 20 qts.
Weekly Petroleum Co.	1	Cobb	3370	Aband.
Magnolia Petroleum	5	J. W. Brown	3820	junked
Magnolia Petroleum	6	W. J. Brown	3210	junked
Mid Kansas Oil & Gas	3	Lowe—a/c 2	3300	125 bbls., shot 170 qts.

Eastland County

Company	Well No.	Lease	Depth	Prod.
States Oil Corp.	1	Quiett	3570	225
Arkansas Fuel Oil Co.	3	Lyerla	3400	10 bbls., shot 140 qts.

Callahan County

Company	Well No.	Lease	Depth	Prod.
The Texas Co.	1	Isenhower	2020	Aband.
Byron-Union Oil Co.	1	Hennessey	4050	Aband.

Mitchell County

Company	Well No.	Lease	Depth	Prod.
Tidal Oil Co.	1	J. J. Handley	3070	60

Completions In North Louisiana And Arkansas Week Ended September 25

LOUISIANA

Cotton Valley—Webster Parish

Company	Well	Location	Depth	Yield
Humble O. & R. Co.	Merritt No. 1	14-21-10	2563	350
Ohio Oil Co.	Bank of Cotton Valley No. 1	22-21-10	2534	25 m. cu. ft. gas

Bossier Parish—Bellevue

Company	Well	Location	Depth	Yield
Dixie Oil Co.	Roehm No. 1	10-19-11	445	s. w. Aband.

Bossier Parish—Elm Grove

Company	Well	Location	Depth	Yield
Davis & Burch	Mercer No. 1	22-16-12	845	2 m. cu. ft. gas

Ouachita Parish

Company	Well	Location	Depth	Yield
Texas Oil Co.	Ladel No. 2	11-19-4E	2166	15 m. cu. ft. gas
Southern Carbon Co.	Fee No. 37	29-19-5E	2225	4 m. cu. ft. gas

ARKANSAS

Smackover

Company	Well	Location	Depth	Yield
Tarver et al.	Stout Lbr. Co. No. 1	1-16-17	2270	65
Gilliland Oil Co.	La Grone S-4	36-15-17	2260	50
J. E. Crosbie	Berry No. 4	33-15-15	1998	125
Dyer Bros.	Stout Lbr. Co. No. 2	31-15-16	2253	75
Forrest Oil Co.	J. A. Cramer No. 8	27-15-16	2320	75
Forrest Oil Co.	J. A. Cramer No. 9	27-15-16	2283	60
D. Green	Fee No. 2	30-15-16	2273	25
Hazen Oil Corp.	Fincher No. 3	29-15-16	2260	20
Invaders Oil Co.	Hardin No. 1	28-15-16	2320	75
Mercury Oil Co.	Hardin No. 1	28-15-16	2305	130
Miller & Winger	Hardin No. 1	28-15-16	2255	30
Sutton et al.	McElroy No. 4	29-15-16	2309	150
Texas Oil Co.	Berry No. 6	33-15-15	1997	110
Cherokee Pet. Co.	Burton No. 7	25-16-16	1990	dry aband.
Riggs Drilling Co.	Rice No. 4	6-16-16	2261	300
United Central Oil Corp.	Burton No. 3	25-16-16	2081	260
United Central Oil Corp.	Craig No. 3	14-16-15	2009	100
Allday Drilling Co.	Moore No. 1	33-18-17	3002	dry aband.

Completions Rocky Mountain District Week Ending September 20

WYOMING

Salt Creek

Company	Well No.	Description	Depth	Prod.
Salt Creek Consolidated	34A	31-40-78	2216	To be shot
Salt Creek Consolidated	35A	31-40-78	2070	To be shot
Salt Creek Consolidated	25A	31-40-78	2426	To be shot
Midwest Oil	13A	19-40-78	2410	20
Wyoming Associated	15A	27-40-79	1755	20
Wyoming Associated	4A	35-40-79	1549	To be shot
Wyoming Oil Fields	31A	25-40-79	1473	65
Midwest Oil & Wyo. Assoc.	13A	25-40-79	1927	To be shot
Ohio Oil	6 Tr. ET	20-39-78	2708	20
Ohio Oil	10	12-39-79	2138	25
Kasoming Oil	2	17-39-78	2595	185
Kasoming Oil	3	18-40-79	2532	30

COLORADO

Moffat Dome

Company	Well No.	Description	Depth	Prod.
Texas-Transcontinental	1 Weyand	33-5-91	3835	Water
Texas Production	1 Freeman	28-5-91	4014	Aband.
Texas Co.	1 Hamilton	33-5-91	721	Aband.

Pueblo

Company	Well No.	Description	Depth	Prod.
Union of California	1 Col.Heights	30-21-65	1100	Aband.
Panuco Exploration	1	3-24-66	900	Aband.

Durango

Company	Well No.	Description	Depth	Prod.
J. A. Leidecker		Lightner Crk.	1700	Aband.

Weld County

Company	Well No.	Description	Depth	Prod.
Estes Park & Big Basin	1	36-8-62	400	Aband.

To Core Cromwell Sand

An effort is being made by the Roxana Petroleum Corp. to obtain a core to determine if it is possible to find a casing point in the sand, so that casing may be set to shut off the gas found sample of the Cromwell sand in order above the oil pay. It has never been definitely determined whether there are any breaks in the sand, and coring is the only means of finding out whether it will be possible to thus set pipe.

Owing to the fact that no apparent break exists between the gas and oil sands, companies have been drilling on into the oil pay, allowing the gas to blow off unrestricted, and it has been estimated that as high as 700 million cubic feet of gas daily have been blown off into the air, a total loss and a huge economic waste. In order to stop this waste and dissipation of pressure, the Corporation Commission, the U. S. Bureau of Mines and operators in the field have been trying to find some way in which the gas could be cased off or saved while at the same time the wells could be drilled into the oil pay.

Test On East Side Of Big Lake Field Has Fishing Job

HOUSTON, Sept. 25

THE Sec. 22, Block 9, test in the Big Lake area of Reagan county that is known as the Texon-Group 2 well was reported, Sept. 24, as having a fishing job at 2928 feet, where the bit was in limestone formation. This is the test reported on page 30 of the September 17, 1924, issue of this periodical as delimiting the Big Lake pool on the eastward, as indicated by structural conditions shown by formations encountered in earlier drilling.

After the pipe had been removed from this cable tool test, which was then down approximately 2880 feet, drilling was ordered resumed on the hole, September 13. Work of removing the pipe, except possibly for surface casing, had been started when the writer was at the well, September 7, last. Depth then was approximately 2880 feet, to which drilling had been carried from the variously reported levels of 2821 or 2841 feet, where the test had been shut down previously for several weeks.

The limestone marker horizon of the Big Lake field is now reported to have been encountered in the Texon-Group 2 test around the 2880-foot level, although the exact depth where it was found is not positive. The test was around 2880 feet at the time the writer visited the well, September 7, and found only redbeds and salt cuttings on the top of the slushpit.

No Oil Showing Found

According to reports from San Angelo, the test had not encountered oil showings at the depth where the fishing job resulted. At 2880 feet, near which the limestone horizon inferentially was topped, the test was 218 feet below sea-level when this depth figure is adjusted to surface elevation of 2662 feet. The structurally deepest well on Big Lake Oil Co. property, to the west-southwest on University Land, had depth of 215 feet below sea-level to the top of the limestone marker formation.

The Big Lake well mentioned in this connection was No. 3, with surface elevation of 2714 feet and total depth to the top of the limestone horizon of 2929 feet. It made 31 barrels, initial production, when completed last January and was considered an "edge well" in the western part of the Big Lake pool.

Producing wells in the Big Lake pool get the "pay" horizon generally about 110 to 115 feet below the the level where the limestone is topped.

An explanation given for the pulling of pipe in the so-called Texon-Group 2 well in Sec. 22, block 9, before drilling ahead to complete the test is that a streak in the limestone formation above the pay carries a quantity of water that has made its appearance in wells of the Big Lake Oil Co.

The explanation made is to the effect that the Texon-Group 2 test would drill down to the top of the pay before setting casing instead of setting on top of the limestone, and that the pipe was pulled in the cable-tool drilled hole to permit of accomplishing this without the under-reaming otherwise necessary in completing the test.

Water Not Serious

Water in the wells of the Big Lake Oil Co., regardless of where it comes from, has not been a serious factor. One of its deepest below sea-level wells, which came in for about 30 barrels daily production some time ago, made as high as 10 per cent. Other Big Lake wells have made from one-half of one per cent to two per cent water, but these showings have been no serious factor against development.

An attached compilation gives details of completed wells in the Big Lake pool, constituting a tabloid history of depths, elevations, initial production and other pertinent development information. It is on the basis of adjustment of these data to the fact that important production has failed to result at levels where the limestone is topped more than 200 feet below sea-level that it is possible to deduce the probable failure of the Texon-Group 2 test; or, even in case of the finding of some unusual and unmeasured condition, at least to delimit the extent of the pool to the eastward with at most a small well.

Two Important Tests In Cotton Valley

SHREVEPORT, Sept. 25.—Apart from the erection of two derricks by the Invincible Oil Co. and the Alabama Petroleum Co., at points near the center of Sec. 28, about a mile southwest of the nearest gas wells in the southwest extension, nothing particularly interesting occurred at Cotton Valley last week.

These two tests will go far toward determining the ultimate value of the Cotton Valley structure, as they are located only a little more than a half mile northeast of the Palmer Corp.'s unsuccessful test in Sec. 29, which, apparently, is just a few feet too low on the structure to be productive.

The next important test in the field is to be made in S. S. Raymond et al's No. 1 Gaynor, in the southeast corner of the southwest quarter of the northeast quarter of Sec. 21, located a quarter of a mile east of the nearest gas wells and almost three quarters of a mile southwest from the one oil well in the southwest extension. Six-inch casing has been set at 2490 feet.

The Alabama Petroleum Co. has set surface casing in its second test in the eastern extension. Both the Humble Oil & Refining Co. and the Oil Fields Gas Co. are rigging up to offset the Alabama company's No. 1 Pardee, the first oil well completed on the eastern slope of the structure.

The Humble Oil & Refining Co.'s No. 1 Merritt, a non-flowing well recently completed in the northeast corner of Sec. 14, is now being blown with natural gas pressure; and is making around 300 barrels of oil per day.

Company Well	Elevation	Depth below sea-level to top of Lime	Top of Lime	Pay Level	Depth of Pay in Lime	Total Depth	Initial Prod. in bbls.
Big Lake Oil Co.							
No. 1	2724			3017(?)		3028	60
No. 2	2722		3006(?)			3115	30
No. 3	2714	215	2929	3015	86	3043	31
No. 4	2759	171	2930	3056	126	3065	125
No. 5	2677	173	2850	2964	114	2970	60
No. 6	2743	282	3025			3244	Dry
No. 7	2832	308	3140			3370	Dry
No. 8	2732	188	2920	2980	60	3020	130
No. 9	2723	147	2870	2979	109	2985	1200
No. 10	2715			2948		2958	1500
No. 11	2668	177	2845	2942	97	2970	3965
Texon—Group 1 Oil Corp.							
No. 1	2784	121	2905	3022	117	3025	2348
Texon—Group 2 Oil Corp.							
No. 1*	2662	218(?)	2880(?)		Uncompleted.		

*—This is test frequently referred to as Texon—Group 2 or "Texon No. 2."

Gulf Coastal, Texas Completions, Week Ending September 27

Company	Lease—Well	Field	Depth	Prod.
Humble Oil & Refining Co	Badge 2	West Columbia	3630	Pump
Gulf Production Co	Wright "A"	West Columbia	1600	650
Canter Oil Co	Canter 3	Hull	900	Aband.
Humble Oil & Refining Co	Hooks-Spell 10	Hull	3675	60
Republic Production Co	Dolbear 88	Hull	2200	400, 17% s. w.
Gulf Production Co	Morris-Phillips 12	Hull	3450	50, 42% s. w.
Humble Oil & Refining Co	Carbello 1	Orange	2850	50
Mutual Oil Co	Chesson 13	Orange	4650	4500
Gulf Production Co	Winfree fee "A-5"	Orange	4250	50
J. H. Antilley	Rio Bravo 2	Sour Lake	970	Pump
Hankamer & Co	Brown 1	Sour Lake	925	S. W.
Atlantic Oil Producing Co	Ross 1	Pierce Jct	4000	S. W.
The Texas Co	Robinson 12	Blue Ridge	3550	2000, 40% b. s. and w.
Gulf Production Co	Blakely "C-9"	Blue Ridge	3000	650
Ada Bell Oil Co	Wise 80	Batson	710	10
Sun Oil Co	Paraffine 73	Batson	945	15
Dedeaux & Cavitt	King 1	Batson	1080	Pump
Weldon Oil Co	Kirby 6	Saratoga	700	10
Rio Bravo Oil Co	"B-311"	Saratoga	875	22

Kirwan Is Superintendent Of Bureau Station

Staff Special

BARTLESVILLE, OKLA., Sept. 27.—Announcement has been made that M. J. Kirwan has been appointed superintendent of the petroleum experiment station of the U. S. Bureau of Mines, located here. He succeeds T. E. Swigart, resigned. R. A. Cattell becomes assistant superintendent, succeeding Mr. Kirwan in this position.

Mr. Kirwan has had a long career in the oil industry, and is recognized as one of its greatest authorities on the use of mud-laden fluid and exclusion of water from oil and gas sands.

After being graduated from the University of Wisconsin, with a civil engineering degree, Mr. Kirwan joined the organization of the Associated Oil Co., operating in California, and was stationed at Coalinga. Later he was engineer for the Fresno County Water Association, one of the earliest attempts to regulate water shut-offs in a field by concerted efforts of the operators.

His next position was that of chief deputy supervisor for the California State Mining Bureau, where he laid the foundation for a great deal of the now recognized practice of the use of mud-laden fluid for water exclusion. He is also an authority on the cementing of wells. During all his 15 years' experience in the oil industry Mr. Kirwan has specialized in these subjects, and ranks as a pioneer in the engineering development of the technic of water exclusion.

Following his service with the state mining bureau, Mr. Kirwan spent a year in Japan, where he was consulting petroleum engineer for the Nippon Oil Co., Ltd. Returning to the United States, he joined the staff of the Bureau of Mines, in 1920, and was appointed assistant superintendent of the Bartlesville station, under H. H. Hill, serving later under T. E. Swigart, whom he now succeeds. During his service at the local station, he has had charge of all of the bureau's work in connection with production and drilling problems. For the past eight months, during Mr. Swigart's absence in India, Mr. Kirwan has been acting superintendent of the station.

R. A. Cattell for the past four and a half years has been petroleum engineer on the staff of the U. S. Bureau of Mines. Mr. Cattell was with the Bureau of Mines several years ago, and was stationed at Muskogee, where he worked in conjunction with the department of Indian affairs. He went into the army when the United States entered the World War, and served in France. Following his army service, he became connected with the Pearson interests in England, and dressed tools for a time on the Hardstoft well, the only producing well ever drilled in England. He then went to Algeria, where the Pearsons were then doing considerable drilling, and remained there about a year.

Returning to the United States in 1921, Mr. Cattell re-entered the service of the Bureau of Mines, going to Shreveport, where for a short time he was in charge of the office. He was transferred to Bartlesville in a few months, where he was placed in charge of the Bureau's study of natural gas pipe line losses in cooperation with the Natural Gas Association. He has continued in that work until the present time, and has come to be recognized as one of the leading natural gas engineers in the country.

Gulf's Davis 14 Big Coastal Well

Staff Special

HOUSTON, Sept. 26.—Gulf Production Co. completed its No. 14 Davis well in the Big Creek salt dome in Fort Bend county for estimated initial production of 5000 barrels daily.

The Davis well, which is on the north side of the dome, was completed at the 3100 foot level.

Gulf's No. 15 Davis, on the east side of the Big Creek dome, was completed about 10 days ago, making roundly 2100 barrels, initial production.

Second Trenton Lime Test Near Newark

NEWARK, O., Sept. 26.—The second Trenton lime well near Newark was drilled in the past week. This pool, opened several months ago by the Wehrle company, of Newark, is extended 1000 feet to the southwest of the discovery by the new well, which is that of the Pure Oil Co. on the Smith farm. Total depth is 4365 feet and the well is good for 50 barrels.

Excellent time was made on this well, as it was drilled to 4200 feet in 50 days. International heavy steel derrick was used and Bessemer twin gas engine. The first 3500 feet were drilled in just 35 days, including a small fishing job. Casing was set at 3800 feet and the Pure used 24-pound six and five eighths seamless pipe for this string with California type long collars.

The first Wehrle well, which brought in the field—the first Trenton production ever obtained this far east—is still making about 25 barrels. Wehrle's second well, located on the Zartman, a half mile southeast of the discovery, has been drilled to a level below that in which the first well got production. The first one's pay was at 4360-75 feet. The Zartman found a light showing of oil and gas at 4385, but it was not important.

The next well in should be the Ohio Fuel Supply Co.'s test 1500 feet northeast of the first Wehrle well.

Say Commission Is Due For Finding Buyer

INDIANAPOLIS, Sept. 26.—Suit was recently filed in the United States district court here by H. J. Smith, of Winchester, Ky., and David Lorbach, of Cincinnati, against Frank M. Millikan and the Union Gas & Oil Co., for commission alleged to be due under an agreement whereby the plaintiffs were to find a purchaser for the stock of the Union company. The contention is made that five per cent commission was agreed upon for such service.

Plaintiffs say that a purchaser was brought to the defendants in January, 1924, who offered $5,000,000 for the entire stock of the company and that the defendants failed to close the transaction.

The Union has large holdings and production in Lawrence and Johnson counties, Kentucky. A. B. Ayers, of Fortville, Ind., is president and Mr. Millikan, of Indianapolis, secretary and treasurer. H. J. Smith is a petroleum engineer and David Lorbach is an attorney.

Refuses To Forbid Use Of Air On Sands

COLUMBUS, O., Sept. 26.—Recent decision in the federal court here is of interest to producers who are using air or natural gas to restore pressure on air sands. The Sylvania Producing Co. sought injunction against the Pembrick Oil Co., producing subsidiary of the Crew-Levick Co. from using air or gas in its wells. The plaintiff contended that its wells were being damaged through the operations of the defendant.

The court dismissed the application introduced to show that use of this system is in many cases an aid rather than an injury to adjoining wells.

Showing In Northern Pawnee

TULSA, Sept. 29.—Wildcat showing in northern Pawnee county may mean the opening of new field on completion of well. Test of Ohaver, Haley, Garber and Pulse No. 1 Phillips N.E. corner S.W. N.E. 5-23-5 east got Bartlesville sand at 3190 feet and has drilled to 3227 still in sand with 1000 feet of oil in hole. Now straight reaming to set liner and will shoot. This well is about 18 miles south and west of Burbank and eight miles east of Watchorn pool. It is on block of about 500 acres owned by above named operators.

DENVER, Sept. 27.—Barnabas Bryan, consulting geologist, has been appointed professor of oil shale mining and refining at the Colorado School of Mines. Mr. Bryan has been associated with Ralph Arnold and has, prior to the past three years, spent much time in foreign work. He has contributed several articles to National Petroleum News on Venezuela.

Active Drilling To Lakota In Salt Creek Not Looked For At Present

By Special Correspondent
DENVER, Sept. 27

COLORADO suffered a series of disappointments the past week in drilling operations. The Texas Transcontinental companies' Weyand No. 1 well on the Moffat dome, in the northwestern part of the state, 3500 feet north of the discovery well, came in with water in the Dakota sand at 3835 feet and was followed by the abandonment of two drilling wells farther to the north. The failure indicates that the pool will be a small one unless further drilling shows that the discovery well is not on the apex of the dome.

The Midwest's discovery well on the Iles dome, 5 miles southwest of the Moffat dome, was opened for a test and made only 30 barrels an hour of which 3 per cent was free water and a part emulsified oil and water. The well may be drilled deeper to see if it had actually penetrated the Dakota sand as at first supposed.

The Union Oil Co. of California test near Pueblo found nothing but water and is being abandoned while another failure was recorded near Durango in the southwestern corner of the state.

Against this list of disappointments in Colorado comes the announcement of a 300-barrel completion on the Rattlesnake dome, in the Navajo Indian reservation, northwestern New Mexico, by the Santa Fe Co. The oil is of 64 gravity, and was found at a depth of 732 feet.

The Weyand No. 1 well of the Texas Co., drilled for its joint account with the Transcontinental Oil Co., on the Moffat dome, in northwestern Colorado, came in as a water well in the Dakota sand at 3835 feet. The well topped the sand at 3834 feet and was only one foot in the sand when the water made its appearance.

The Weyand is located 800 feet south of the north line and 400 feet west of the east line, on 33-5-91, upon the same section and 3,500 feet north of the discovery well which came in last January and is now making around 1,600 barrels a day. The discovery well topped the sand at 3805 feet and, with surface elevation taken into consideration, is approximately 262 feet higher on the structure than the Weyand. The results indicate that the producing area on the Moffat dome will be smaller than at first supposed, unless further drilling proves that the discovery well is not located on the apex of the structure.

A revision of the drilling program has taken place and before any new developments will be started a further study of the geology probably will be undertaken. Two wells have been drilling to the north of the Weyand. One of these, Freeman No. 1, located 400 feet north of the south line and 760 feet west of the east line on 28-5-91, has been standing for several weeks at 4014 feet with a fishing job and still some distance off the sand. The other, the Earl Hamilton, 400 feet north of the south line and 400 feet east of the west line, on 33-5-91, had reached a depth of 741 feet. Both of these wells will be abandoned as the territory is considered disproven.

South of the discovery well two operations are under way. One of these is the Meyer No. 1 on 9-4-91, about 2000 feet south and a little to the west of the discovery, and the other is the State-Rhoades No. 1 on the northeast corner of 16-4-91, still farther south. The Meyer well is down 3550 feet and has been drilling in shale oil, which came in at approximately the same depth shale oil was encountered in the discovery well and which stood 1500 feet in the hole before it was cased off. Operations will be centered on the Meyer well until it is completed. It was believed to be lower on the structure than the discovery but there is now some doubt about it. The State-Rhoades is down 3240 feet and has been showing shale oil but it probably will not be completed until the results in the Meyers well are known.

The question uppermost now in the minds of the oil men is whether the sub-surface geology on the Moffat dome is different from what it was first believed to be and the apex located farther to the south and east than originally supposed, or whether the dome is to have a small productive area of only a few hundred acres. The Texas Co. is not committing itself on this question but is carefully going over the logs of the different wells and making a close study of the conditions.

However, it is unofficially reported that the Texas Co. has been acquiring leases to the east and south of the structure in an area which its first maps indicated were outside the closing contour and, if this is true, it may mean that conditions are not as discouraging as painted in some quarters and that it will be found that the discovery well was drilled on the edge of the pool. The truth is that the geology in northwestern Colorado is proving a puzzle to more than one operator and that more wells will have to be drilled before the exact facts are known.

Iles Dome a Puzzle

The Iles dome, 5 miles to the southwest of the Moffat dome, which has generally been looked upon as one of the most promising of the series of structures in northwestern Colorado, is failing to come up to expectations and is also somewhat of a puzzle. The Midwest Refining Co. drilled in the discovery well two weeks ago on 22-4-91 and it was believed to have been bottomed 15 feet in the Dakota sand at 2645 feet. The well had been making oil for 200 feet or more above the sand. This oil in the shale tested 38.3 gravity and was a live crude of good quality but the gravity of the oil at the time of completion was only 22 Be. though of paraffin base. The well was estimated at 3000 barrels.

This week the well was opened for a test and in the first 24 hours flowed an average of 30 barrels an hour or at the rate of 720 barrels a day. The crude contained about 3 per cent of free water and also some emulsion; but no test to determine the quantity of the emulsion has been made. There was no change in the quality of the oil. The production has not only declined below the original estimates, but the other factors are not quite as good.

A question has been raised as to whether the hole is really in the Dakota sand. Midwest officials have not committed themselves on that subject but are giving it study along with a consideration of the advisability of drilling deeper to find out the facts.

The Union Oil Co. of California had its first wildcat failure in Colorado this week when its test on 30-21-65, Columbia Heights dome, 5 miles southwest of Pueblo, found water in the red beds at 1100 feet and is being abandoned. The hole went through 3 sands in the Dakota formation all of which contained water. An official states that the hole went through all the formations the company desired to test. It is evident that the company had no hopes of finding anything in the Pennsylvania below the red beds.

The Panuco Exploration Co. also found water in the red beds at 720 feet on 3-24-66, south of the Union well and 18 miles south of Pueblo. It drilled to 900 feet and then abandoned the test, moved the rig 6 miles to the north and started another well.

The two failures in the Pueblo district have not, however, discouraged the Ohio Oil Co. which is going ahead with

a test on 25-21-64, about 12 miles southeast of Pueblo, where it has 16,000 acres leased. The test started last week in a 15-inch hole which indicates that it is expected to be shallow drilling.

A little to the north and west of the Ohio well about 6 miles on 30-20-63, the Salida Oil & Refining Co. drilled to 2940 feet a few months ago in its Baxter No. 1 and had a good showing of amber-colored oil of 41 gravity at 2150 feet and more oil at 2940 feet. The hole was in bad shape. An effort was made to shoot the upper sand but the well was lost by a premature shot. These people are now starting another well on 1-20-63, five miles north of the Baxter well. The new location is only a mile south of what is known as the Chico well which had a show for 250,000 cubic feet of gas at 925 feet a few months ago and which was lost before it was finished.

Question Leidecker Well

Colorado had another failure this week in a well drilled on the Lightner Creek structure, 3 miles southwest of Durango, in La Plata county, by J. A. Leidecker. The hole went through the Dakota sand at around 1700 feet and found it dry and the test was abandoned. It also begins to look as if the much-discussed Leidecker well on 34-33-12, near the New Mexico line and 23 miles southwest of Pueblo, had blown up. It has been idle for the past month or two at around 3650 feet, the depth at which the Dakota sand was expected and the report was the tools were stuck 400 feet off the bottom. This test had a good showing at 2535 feet and a still better showing at 2880 feet. The last named sand was given a shot of 40 quarts of nitro-glycerin and the one at 2535 feet was treated to a shot of 200 quarts. There was no flow of oil or gas from either but the shots bridged the hole and the drillers are now cleaning out.

The Yuma county field, in northeastern Colorado, near the Nebraska boundary, which has been attracting considerable attention recently, is to be given a deep test by the Mutual Oil Co. In fact, the district is coming in for a big wildcat play. The Midfields Oil Co., a local concern, drilled 3 wells on the Black Wolf dome, on 14 and 17-2 S-43, a little to the south of Wray and only a few miles from the Nebraska line, about 3 years ago in which considerable gas was found in several sands at 1700 to 2400 feet. Last spring a fourth well was drilled on 20-2-43 which opened up a flow of several million cubic feet of gas at around 1500 feet. This well was better located and gave favorable indications of becoming an oil producer but the company was short of funds and could not continue the test. A deal has been made with the Mutual whereby that company will take over the operation and finish the well on section 20 or start another for a test of all the formations within reach of the drill.

The Mutual test will be drilled on a 6000-acre tract which has been approved by T. S. Harrison, former head of the geological department of the Midwest Refining Co., and by Fisher & Lowrie, consulting geologists. At least three new tests are expected to go to the Pennsylvania sands if production is not found in the Dakota or some higher formation.

The northwestern Colorado area is also to have a deep test according to the plans of the Centennial State Petroleum Co. which is starting a well on 24-8-86, in Routt county, on the Deep Creek structure. The structure is located 14 miles northwest of Steamboat Springs and to the east of the series of structures in Moffat county. So far the tests in northwestern Colorado have all had the Dakota sand as the objective but the Centennial State people intend to go to the Pennsylvania which on the Deep Creek structure should come within 4,000 feet of the surface.

Take Oil From Whitaker Well

Oil shipments from another Colorado field will start in about two weeks as a result of a contract made by the Union Oil Co. of California with the Midwest Refining Co. for the sale of the crude from the Whitaker well on the Fort Collins dome. The deal is for the purpose of finding an outlet for the crude from the Whitaker well so it can be completed and is a temporary arrangement until the Union company decides upon a permanent policy for handling its Colorado production. The oil from the well is accompanied by a heavy gas pressure and has worked its way up outside the 6¼-inch casing and is flowing out of the top between the 6¼ and 8-inch casings. This flow amounts to about 800 barrels a day. Twelve 250-barrel tanks have been filled and the oil is now flowing into a battery of 5,000-barrel tanks of which 4 are full.

It has been considered unwise to shut in this flow from between casings for fear the gas pressure will lift the pipe out of the hole and ruin the well. Likewise, it is considered dangerous to open the main valve on the 6¼-inch casing until the company is ready to handle the situation that may develop. The valve was opened once since the well was drilled in. The fittings immediately began to heat up and the well clearly indicated that it would drill itself in and probably go wild.

The company has had difficulty in providing sufficient storage for the oil that is coming from between the casings and also for the opening of the well so it was decided to get this oil out of the way. A 6-inch pipe line will be built to the Colorado & Southern railroad, 2½ miles to the east of the well, where the Midwest will erect loading racks and tanks. The oil will be moved to the Casper refineries. When it is out of the way and the tankage is empty, the Whitaker well will be opened up, tested and completed. It is admitted that this work is going to prove quite a difficult task.

The Midwest Refining Company's No. 34X, on the SE¼ of NW¼ of 23-40-79, in the Salt Creek field, which was bottomed at 2546 feet in the Lakota sand on September 13, has been pinched in to 2,000 barrels as it was beginning to show some water. Five days after it was drilled in it was reported showing an emulsion of 15 per cent which probably means that it will have to be treated before it is turned into the pipe lines. The well flowed 5,974 barrels in the first 24 hours and 5,694 barrels in the last 24 hours before it was pinched in. An official statement gives the gravity as 38.3 Be. and rock pressure of 475 pounds to the square inch. The temperature of the oil is about 94 degrees.

A log of the well shows that the first Wall Creek was topped at 1071 feet and bottomed at 1180 feet. The sand carried oil. The second Wall Creek was found at 1445 feet to 1517 feet and would also have been a good producer. The third Wall Creek was topped at 1762 feet and passed out at 1767. It was dry. The Dakota sand was found at 2424 feet to 2432 feet with a shale break of 2 feet between 2428 and 2430 feet. It had a small showing of oil and gas but no water. The Lakota was topped at 2504 feet. A 4-foot shale break was found at 2530 to 2534 feet. The bit then entered a coarse, porous sand and the big oil was found at 2534 to 2546 feet. Drilling was suspended with the hole still in the Lakota.

The discovery of oil in a lower sand in Salt Creek brought considerable encouragement to the people of Casper who had begun to believe that the field had passed its apex in production and which had begun to cause a reflex action on business. The Lakota sand will, in the opinion of almost all those most directly concerned, be productive over the area of the first Wall Creek, or close to 4500 acres, but how far out beyond that limit can be determined only by the drill.

An interesting test is being drilled 15 miles north of Salt Creek by the Montana Giant Petroleum Co. for its joint account with the Salt Creek Extension Oil Co. The well is located on the Burris structure, on 28-42-79. It was started with a 20-inch bit and the hole was reduced to 18 inches at 500 feet to shut off surface water. The Shannon sand, which is eroded in Salt Creek, is expected at 2,000 feet and the second Wall Creek at approximately 4500 feet.

New Mexico

New Mexico came to the front this week with a good completion and a rather important one inasmuch as it looks like a new commercial field is now assured in the Navajo Indian reservation. The well is No. 5 drilled by the Santa Fe Co., (S. C. Munoz, et al.) on the Rattlesnake dome, about 15 miles west of the Hogback operation of the Midwest Refining Co. It reached the Dakota sand at 732 feet and made 300 barrels by gauge test in the first 24 hours. The oil is approximately the

same gravity as that from the other wells which tested 64.2 gravity.

S. C. Munoz purchased the Indian lease on 4,000 acres on the Rattlesnake dome a year ago for a bonus of $1,000. The first well was drilled on 1-29-19 and came in at 821 feet as a small producer of high grade oil. The rig was then moved 1500 feet to the southeast for No. 2 which was a water well. No. 3 was drilled 660 feet north and 330 feet west of No. 1 where a better well was found at around 800 feet, is making about 80 barrels. No. 4 was then put down 330 feet west of No. 3 and came in for better than 100 barrels at 791 feet. No. 5 is 500 feet west of No. 4. No. 6 is being started farther to the south to feel out the boundaries of the pool in that direction. Dean C. Winchester is consulting geologist for the company.

South of the Union operation, on 15-23N-24E, in the southern part of Colfax county, the Standard Oil Co. of California is drilling at 1266 feet in its Floersheim No. 1, and is carrying the 12½-inch casing. It was expected that this test would pick up the Dakota sand at a very shallow depth but whether it has been reached is not known. The drill is headed for the sands in the Pennsylvania formation and was started with the intentions of going through the Dakota unless something was found that exceeded expectations.

In this same general area, on 10-29-24, Colfax county, the Eureka Oil syndicate is reported drilling at 3484 feet in a sand which has been penetrated 200 feet so far. This sand is believed to be the second in the Pennsylvania. It has been showing oil all the way down from the top of the sand and the quantity is reported increasing but it is not yet in commercial quantities. South of these operations, in Mora county, the Arkansas Fuel Oil Co. is getting a test under way on the Wagon Mound dome.

The Midwest Refining Co. is shipping an average of about 625 barrels a day from the Hogback dome in the Navajo Indian Reservation. The oil is going to the plant of the Utah Oil Refining Co. at Salt Lake City. The wells are not operated at capacity on account of the hydrostatic pressure back of the oil.

The West Coast Gasoline Co. is drilling a few wells near Aztec to increase its supply of natural gas. The company recently constructed a gasoline extraction plant at Aztec which is operating on gas from two wells drilled a few years ago by the Aztec Oil & Gas syndicate.

The only test of importance in the northwestern part of the state is that of the Gypsy Oil Co. on the Ute structure, near three big gas wells and 3 miles south of the Colorado line. It is just getting under way and nothing of importance in the way of news is expected for some time.

Supply Man Tells Of Efforts To Restore Fields Of Rumania

By Special Correspondent

SHREVEPORT, Sept. 27.—W. (Jack) Walton, of the National Supply Co., who has recently returned to Shreveport from a year spent in the oil fields of Europe, is the bearer of many interesting accounts relating to operating methods and conditions in the foreign fields.

His itinerary included not alone the oil fields, including those of Alsace-Lorraine, where oil is mined as well as drilled for, Rumania and the Galician fields of Poland, which formerly were a part of the Austro-Hungarian Empire, but also the larger cities of Europe, including London, Paris, Antwerp, Brussels, Bucharest, Vienna, and Lemberg (Lvov), where he visited the headquarters of the operating companies now active in the various fields of Europe.

Perhaps the most interesting of all his experiences was gained in the fields of Rumania, where entire oil fields and numbers of refining plants were destroyed by the retreating Allies to prevent their operation by the invading Germans; and emphasizes the vital importance of petroleum resources in war-time. Those who have encountered bitter experiences and difficult fishing jobs in efforts to reclaim wells accidentally junked can fully appreciate and applaud the successful efforts of the Europeans, and assisting Americans, who have practically completed the restoration of their devastated fields. Wells were junked by every conceivable method calculated to prevent their operation by the Germans, to whom petroleum was so vital a factor in military operations. Cable-tool bits were thrown into the wells bottom and up; and wire lines, scrap-iron, and drill stem were jammed in the holes in such manner as to render their recovery most difficult.

Until about the first of this year, very little wildcatting or new drilling has been done in the Balkan fields since the war, producers having expended their first efforts toward restoring and repairing ruined wells. Their perseverance has been well rewarded; and the majority of their wells are again producing oil. A few new wells are being completed from time to time at present; but new development is slow, in comparison with American operations, as it takes a long time to drill new wells,—from six to nine months by the rotary method, and more than a year by the cable tool method.

The introduction of modern methods and machinery is a slow and difficult process, due to a deep-seated prejudice on the part of native labor, based on the fear that time- and labor-saving devices might result in a scarcity of work. A number of American, English, and Dutch drillers have been brought in by the operating companies for the purpose of facilitating the introduction of improved methods and equipment.

For the foregoing reason, and because of valve and cup difficulties traceable to the loose "floating" pay sand found in the Balkan fields, the adoption of modern pumping methods has been retarded. The loose, unconsolidated sands cause valve cups to wear out in very short order. American operators who have visited these fields have expressed the opinion that obstacles of no more serious character have been overcome in our own domestic operations; and profess to believe that American ingenuity, if unhampered by native laws and prejudices, might overcome these. In the Roumanian fields, the operation of gas engines is restricted by law in localities in which a fire hazard is believed to exist because of the possibility that the exhaust might ignite escaping casing-head gas.

Heretofore, no attempt has been made to conserve and utilize casing-head gas; but several natural gasoline plants are now being installed.

A few standard rigs and gas engines have been installed in the Moreni Field, of Rumania, a plunger-type, or "B. & B." working barrel being used to combat the sand troubles. In most cases, production is obtained by bailing and swabbing operations, usually requiring two men per well. Ton after ton of sand is blown or bailed from the wells in the course of their operation.

Another obstacle to the importation of modern machinery is found in the protective tariffs of the various countries. Usually, the tariff policy is to impose a heavy duty on foreign goods imported in competition with similar materials of local manufacture; and to place lighter duties on non-competitive importations. In some instances, the import duties approximate 100 per cent of the value of the material.

HOUSTON, Sept. 26.—F. W. Fraley, vice-president of the Sinclair Refining Co., of Louisiana, who operates a plant at Mereaux, La., but who makes his headquarters at Houston, is on his way back from a trip that included St. Paul, Detroit, and a number of other northern points.

DALLAS, Sept. 27.—E. R. Brown, vice-president and general manager of the Magnolia Petroleum Co., has just returned from a trip to Europe.

OIL FIELD SUPPLY TRADE NEWS

Pipe And Plate Shipping Confused As "Pittsburgh Plus" Is Changed

By Special Correspondent

PITTSBURGH, Sept. 30

MISCELLANEOUS tubular goods orders from the oil and gas fields are coming in to makers here but action on larger lines apparently is deferred in a number of instances. No large awards of line pipe business have been noted in recent weeks, although it is understood that the Pan-American Petroleum & Transport Co., New York, has placed an order for 35 miles of 10-inch line pipe for installation in Mexico, involving about 3500 tons with a large producer here.

The Big Lake Oil Co., San Angelo, Tex., however, will build an 8-inch oil pipe line from the Reagan county field to Ranger, Tex. It recently announced the construction of a $250,000 gasoline plant and also contemplates the electrification of its oil well equipment in the Texon field.

The Grayburg Oil Co., San Antonio, Tex., plans the construction of a 60-mile oil pipe line from San Antonio to the Luling oil field at a cost of about $250,000. The line will be 4-inch and have two pumping stations and while work is to be started immediately and completed by Nov. 1, so far as can be learned the pipe order has not been placed as yet.

The trade awaits further announcements from the National Tube Co., now that its parent organization the United States Steel Corp., has accepted the "cease and desist" order of the Federal Trade Commission with reference to the universal Pittsburgh base method of quoting prices. The National Tube Co. was not cited in the original complaint but it has gone along with other constituent companies of the U. S. Steel Corp., in adhering to the order. In doing so it issued a formal announcement as follows:

"Effective Sept. 22, 1924, the National Tube Co. will abandon its practice of selling its goods on the basis of Pittsburgh plus. Hereafter our prices will be based on the point of manufacture by us having the lowest rate of freight to destination, and delivered prices will be computed on this basis.

"We have two points of manufacture, namely, the Pittsburgh district and Lorain, O., and sales hereafter will be made at delivered prices based on whichever point has the lowest rate of freight to destination. Such classes of materials as are manufactured by us at one point and not at the other will be priced on the basis of freight from manufacturing point to destination."

In addition it was announced that the prices at Pittsburgh and Lorain would be the same.

Independent pipe companies are working out their individual problems. The Jones & Laughlin Steel Corp. will naturally keep its Pittsburgh base prices, since it is a Pittsburgh concern, but will name delivered prices. The Youngstown Sheet & Tube Co. is considering whether or not to name Chicago and Lorain bases or Chicago and Cleveland, instead of Chicago and Youngstown, O., where its mills are. Then the question would be where would its Zanesville mills enter.

The Republic Iron & Steel Co., Youngstown, O., makes no announcement whatever, and continues to quote the old Pittsburgh base whenever necessary to quote at all. The Wheeling Steel Corp. will probably quote f.o.b., Wheeling, plus freight to destination to make a delivered price. Other pipe makers are mapping out their respective plans of action.

Some little confusion too is being experienced in the plate market owing to the discontinuance of the Pittsburgh base method of quoting. In the meantime, until all inconsistencies and apparent discrepancies are ironed out, the market is quiet and outstanding events such as large tonnage orders or inquiries are scarce. In the Chicago district, however, one platemaker accepted an order for 5000 tons of tank plates last week from an oil tank builder. Prices at Chicago are 2.00 to 2.15 cents a pound.

In tin plate the market is unchanged save that the American Sheet & Tin Plate Co., leading producer, has established a price at Gary, Ind., for western shipments of $5.60 or 10 cents above the Pittsburgh price of $5.50, which still applies at seven of its other tin plate plants. One recent order involves a large tonnage for shipment abroad. The Nippon Oil Co., of Japan, again has entered the market for 56,000 base boxes.

The order placed by the Gulf Refining Co., as noted last week for a 5-ton, 1-motor, 38-foot span crane, went to Alfred Box & Co., Philadelphia, through Arthur Appleton, 29 Broadway, New York City.

The Sinclair Consolidated Oil Corp., 45 Nassau street, New York, commenced construction of a storage and distributing plant at Island Park, near Northumberland, Pa. This with equipment will cost $75,000.

Revised plans have been issued by the Standard Oil Co. of Illinois, Decatur, Ill., for the erection of its oil storage and distributing works at Fourteenth and McCausland streets, East St. Louis, Ill., to be one and two-stories high, 80 x 200 feet and 85 x 118 feet to cost about $150,000 with equipment. Schlinz & Bailey, Monadnock block, Chicago, are the engineers.

The Louisville Petroleum & Refining Co., Inter-Southern building, Louisville, Ky., plans a new oil refinery on the Ohio river, near that city. Its initial capacity will be about 1000 barrels per day and will cost, it is estimated, $500,000 with machinery. W. W. Mitchell is president. Plans are being laid for rebuilding.

Plans are being completed by the Imperial Petroleum Corp., Tampa, Fla., for a new oil storage and distributing plant in the Hooker's Point district, estimated to cost $200,000 with equipment.

Union's Book on Drilling

CLEVELAND, Sept. 26.—With the object of giving concise information on equipment and methods of drilling, the Union Tool Co. has issued a booklet, "Development of the Oil Well," by Edward Timbs, district engineer of the company, Torrance, Calif. While the greater part of the 80 pages is devoted to descriptions of drilling equipment, the author has summarized the geological principles and production practices of interest. The Union company will supply a copy to any interested person. Inquiries should be addressed to Torrance, Calif.

HOUSTON, Sept. 26.—G. L. Griffin, southwestern sales manager of the Chapman Valve Manufacturing Co., Indian Orchard, Mass., who maintains district offices in the West building at Houston, is on a business trip to Pittsburgh and other eastern points.

HOUSTON, Sept. 26.—Earl Hagy, formerly of Houston, but more recently stationed at Fort Worth as sales representative of the Wilson Oil Tools Corp., Los Angeles, has returned to headquarters after a business trip to the Gulf coastal territory.

HOUSTON, Sept. 26.—Frank Copp, representing the Frick-Reid Supply Co., has been spending a part of his time recently in the Big Lake district of Reagan county.

Joys Made Sales Manager Of A. O. Smith Couplings

MILWAUKEE, WIS., Sept. 22.—Carl C. Joys, Jr., who has been in the oil and oil field equipment business for the past 15 years, has recently become manager of sales of the new Smithsteel coupling and oil field products division of the A. O. Smith Corp. of this city.

Mr. Joys after leaving the University of Wisconsin in 1909, obtained his first experience in the oil industry with the Honolulu Consolidated Oil Co. in the Maricopa and Taft fields of California. He remained with that concern until 1913, when he left to open the eastern district for the Lucey Mfg. Co. at Pittsburgh. Six years later, he left the Lucey company to become district sales manager in New York for the Steel & Tube Co. of America. He was placed in charge of eastern territory and export business and held this position until 1923 when he went back to the Lucey Mfg. Co. as vice president and director of sales, two months prior to that company's difficulties.

The A. O. Smith Corp. recently acquired the Steel Coupling Co. and has taken charge of the selling of couplings. Carl Hochenauer, formerly sales manager with the Smith corporation, becomes district sales manager of the oil field division with offices at Dallas. The Tulsa office will be in charge of A. E. Butts. Plans are being made to establish offices at several other points.

New Map of Texas

WASHINGTON, Sept. 25.—The U. S. Geological Survey has issued an oil and gas map of Texas on a scale of one inch equals about 12 miles. The map is in two sheets, showing by colors and symbols the producing oil and gas fields, localities in which oil and gas have been produced, main pipe lines, refineries and salt domes. It costs 50 cents and may be had by addressing the Survey at Washington.

Coupon Co. Elects New Officers

INDIANAPOLIS, Sept. 29.—Changes in the management of the Allison Coupon Co. were made at the recent annual stockholders meeting. Officers elected include: M. J. Allison, president; James A. Allison, secretary; J. S. Berryhill, treasurer; and John H. Allison, general manager.

John H. Allison, newly-elected manager, has been with the ticket business all of his business life and recently had charge of the sales department of the company.

New machinery has been added to the factory and alterations made which will facilitate output.

HOUSTON, Sept. 26.—President R. A. Fouts of the Deepwater Oil Refineries, Inc., expected back at his desk in Houston early in October, after a month spent around Chicago and at Indiana points.

Carl C. Joys, Jr.

Kentucky Production Declines In August

LEXINGTON, KY., Sept. 29.—Total production of Kentucky oil fields, by counties, for August as compared with July, is as follows, according to the Kentucky Oil Men's Association

County	August	July
Allen	31,865.92	36,054.26
Barren	12,525.55	10,622.58
Bath	2,048.93	1,559.64
Boyd	195.62	.....
Cumberland	6,842.85	6,867.08
Elliott	533.14	790.68
Estill	42,867.42	43,524.17
Floyd	881.28	1,194.14
Hancock	2,796.56	2,983.80
Hopknis	1,899.24	163.80
Johnson	95,895.50	103,385.12
Knott	254.18	.....
Lawrence	42,403.52	44,452.66
Lee	186,775.59	211,386.88
Lincoln	105.80	.....
Magoffin	85,803.66	97,465.93
Monroe	4,325.12	7,575.15
Morgan	755.20	947.18
Ohio	8,240.16	8,614.78
Owsley	591.08	920.54
Powell	20,573.00	25,526.36
Russell	851.24	.....
Simpson	956.30	977.50
Warren	47,042.32	55,252.39
Wayne	9,857.77	11,850.04
Wolfe	5,097.39	5,512.32
Total	611,984.34	678,369.29

NEW YORK, Sept. 29.—The Chicago Bridge & Iron Works are in receipt of an order from the Bond & Share Co., calling for the furnishing and erecting of a 1,000,000 cubic foot gas holder at Miami, Fla., which will involve approximately 1000 tons of plate work. A new feature in this work is that the bottom of the tank and the roof of the holder will be welded and in addition an oil storage tank of 240,000 gallon capacity will be placed inside of the holder.

HOUSTON, Sept. 25.—W. B. McCarter, formerly in the engineering department of The Texas Co., at Houston, and later transferred to the New York offices of the producing department, has returned to Texas after resigning to reenter school. He has taken up a geological course at the University of Texas.

DAVID DONOGHUE
Geologist and Engineer
Appraisals and Geological Reports
West Building, Houston, Texas

W. L. GOMORY
Chemical Engineer
Consulting Petroleum Technologist
Inventor Gomory Cracking Process
Licenses Solicited
Refinery Design
Peoples Gas Bldg. - Chicago

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Los Angeles Shipments Establish Record

LOS ANGELES, Sept. 29.—During the week ending Sept. 20, Los Angeles harbor established what is believed to have been a world record in the exportation of petroleum products. The shipments totaled 2,962,364 barrels, which is at least 500,000 barrels greater than the shipments of any other week in recent months. There were 39 tanker loads, and they went to ports on five continents—North America, South America, Europe, Australia and Asia.

The shipments included 25 cargoes of crude oil, 10 cargoes of fuel oil, three cargoes of gasoline and one load of kerosene which was destined to Shanghai. Seventeen of the tankers departed for Pacific coast ports, 12 were billed as Atlantic coast domestic, six were billed as Pacific coast foreign, and four were billed as Atlantic foreign. The shipments were as follows

Sept. 13

W. S. Miller to Richmond, 74,465 barrels crude for Standard Oil Co.
H. M. Storey to Bayonne, 117,108 barrels crude for Standard Oil Co.

Sept. 14

Capt. A. F. Lucas to San Diego, 46,600 barrels crude for Standard Oil Co.
M. H. Whittier to Avon, 73,908 barrels crude for Associated Oil Co.
La Placentia to Balboa, 83,630 barrels fuel for Union Oil Co.
Charles Pratt to Bayonne, 106,000 barrels crude for Standard Oil Co.
San Ubaldo to London, 65,506 barrels gas for Shell Co.
F. H. Hillman to London, 105,000 barrels gas for Standard Oil Co.

Sept. 15

Frank G. Drum to Avon, 65,000 barrels crude for Associated Oil Co.
DeRoche to San Diego, 60,000 barrels fuel for Shell Co.
E. L. Doheny Jr. to Bayonne, 91,646 barrels crude for Pan-American Petroleum Co.
Agwihavre to Baltimore, 94,043 barrels crude for Prudential Oil Co.
H. M. Flagler to Bayonne, 89,571 barrels crude for Standard Oil Co.
Cape Cod to Bayonne, 74,000 barrels crude for Cape Oil Co.
San Florentine to Tampico, and Tuxpam, 125,000 barrels crude for Eagle Oil Co.
Gedania to Campana, 84,000 barrels crude for Standard Oil Co.

Sept. 16

Capt. A. F. Lucas to Astoria, 46,600 barrels fuel for Union Oil Co.
Los Angeles to Martinez, 75,000 barrels crude for Shell Co.
Alden Anderson to Avon, 68,000 barrels crude for Associated Oil Co.
H. T. Harper to Sydney, 39,044 barrels gas for Standard Oil Co.
Bethelridge to Bayonne, 72,972 barrels crude for Walker & Daly.
Tulsagas to Bayonne, 69,000 barrels crude for Standard Oil Co.

Sept. 17

W. F. Herrin to Avon, 45,000 barrels crude for Associated Oil Co.
W. S. Miller to Richmond, 74,465 barrels crude for Standard Oil Co.
Argonauta to Tokuyama, 55,000 barrels fuel for Anglo-Saxon Petroleum Co.
Tuxpanoil to Bayonne, 75,572 barrels crude for Pan-American Petroleum Co.
Agwisea to Bayonne, 89,641 barrels crude for Associated Oil Co.

Sept. 18

Montebello to Martinez, 77,382 barrels crude for Shell Co.
Lubrico to Pt. Wells, 70,000 barrels fuel for Standard Oil Co.
K. R. Kingsbury to Richmond, 79,593 barrels crude for Standard Oil Co.
San Felix to Valparaiso, 125,000 barrels fuel for Shell Co.
Bald-Butte to Bayonne, 70,000 barrels crude for Associated Oil Co.
Hagood to Boston, 76,000 barrels crude for City Service Co.

Sept. 19

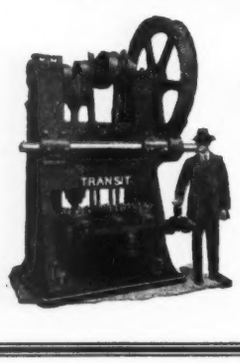
Cathwood to Oleum, 74,738 barrels crude for Union Oil Co.
Lebec to Seattle, 73,963 barrels fuel for General Petroleum Corp.
M. H. Whittier to Avon, 73,908 barrels crude for Associated Oil Co.
Frank H. Buck to Linton, 85,000 barrels crude for Associated Oil Co.

Gas Is Found In Noble County Deep Test

MARIETTA, O., Sept. 26—At a depth of 5100 feet, the joint test in Noble county, a half mile east of Belle Valley, found a flow of gas in the Newberg sand estimated at 100,000 cubic feet. This test was taken over by a number of Marietta men from the Ohio Fuel Supply Co.

In the extreme northern part of Washington county, a mile north of Macksburg, the Macksburg Deep Sand Co. has reached a depth of 600 feet and set 10-inch. This company was organized by E. L. Stephens, of Marietta, last summer, as a cooperative company to drill deep tests. A number of operators turned into the company rights to everything below the Gordon sand and received stock in the developing company in proportion to the acreage assigned.

TRANSIT PUMPS



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PIPE LINE, REFINERY, FIELD
Pumps

National Transit Pump & Machine Co.
OIL CITY, PA.

District Offices: **New York, Philadelphia, Tulsa, Cleveland, Pittsburgh, Houston and Denver**

Foreign And California Receipts Gain

NEW YORK, Sept. 29.—Receipts of California oil (crude and refined oils) at Atlantic and Gulf Coast ports for the week ended Sept. 20 totaled 665,000 barrels, a daily average of 95,000 barrels, against 662,000 barrels, a daily average of 94,571 barrels for the week ended Sept. 13:

(Barrels of 42 gallons)

	Week Ended Sept. 20	Week Ended Sept. 13
At Atlantic Coast Ports		
Baltimore	216,000	74,000
Boston	.....	76,000
New York	374,000	512,000
Philadelphia	75,000	.....
Total	665,000	662,000
Daily average	95,000	94,571
At Gulf Coast Ports	.....	.....
Total Atlantic and Gulf Coast Ports	665,000	662,000
Daily average	95,000	94,571

According to figures collected by the American Petroleum Institute imports of petroleum (crude and refined oils) at the principal ports for the week ended Sept. 20 totaled 1,784,000 barrels, a daily average of 254,857 barrels, compared with 1,171,000 barrels, a daily average of 167,286 barrels for the week ended Sept. 13:

(Barrels of 42 gallons)

	Week Ended Sept. 20	Week Ended Sept. 13
At Atlantic Coast Ports		
Baltimore	269,000	.....
Boston	61,000	(a)66,000
New York	125,000	124,000
Philadelphia	110,000	.....
Others	316,000	110,000
Total	881,000	300,000
Daily average	125,857	42,857
At Gulf Coast Ports		
Galveston District	210,000	326,000
New Orleans and Baton Rouge	625,000	326,000
Port Arthur and Sabine District	68,000	172,000
Tampa	.....	47,000
Total	903,000	871,000
Daily average	129,000	124,429
At All U. S. Ports		
Total	1,784,000	1,171,000
Daily average	254,857	167,286

(a) Revised.

BAKERSFIELD, Sept. 20.—The Union Oil Co. of California has undertaken an accident-prevention campaign which is taking in considerable scope in Kern county. Under the supervision of Clyde Zuver, a rig contractor, the company is equipping 100 of its derricks in this district with safety devices. Safety installations are being made on the Lakeview and Interstate leases in the Maricopa field; the Bedrock and Regal leases in the Taft field; the Dome, Gem and El Camino leases in the Fellows district. Leases in the Belridge, Lost Hills and Coalinga fields are now being similarly equipped.

MILWAUKEE, WIS., Sept. 22.—Electrically welded fuel oil storage tanks for fuel oil heating systems are being built by The Heil Co. of this city. The tanks are made of heavy steel and welded by the electric arc process which makes each one a one-piece job, rendering them safe against leaks, the company claims. Underground storage tanks and 50 or 60 gallon tanks for basement storage can be furnished.

N. P. A. Approves Changes In Standards And Methods Of Testing

ATLANTIC CITY, Sept. 26—TESTS and standards of oils of the National Petroleum Association have been brought up to date by the adoption of changes made by committee D-2 of the American Society for Testing Materials, the American Petroleum Institute and the federal specifications board. Concerning changes during the last year, the associations department of standards and tests, in charge of O. P. Keeney, made this report:

"The A. P. I. committee on viscosity standards has worked out a practical method for the standardization of Saybolt universal viscosity and a practical working standard for normal Saybolt viscosity has been set up at the bureau of standards. Individual owners of Saybolt instruments may have them standardized in either one of two ways:

"1. By setting aside a good sized sample of a suitable oil (say, a well-filtered neutral of about 200 viscosity at 100), and sending a half pint sample of this to the Bureau of Standards, Washington, D. C., for the determination of normal Saybolt universal viscosity at 100 degrees F. The retained sample can then be run in the owner's individual tubes, under standard conditions; and from the Bureau of Standards report, and results on the individual tubes, corrections, if any, can be determined for different Saybolt tubes.

"2. A Saybolt tube, itself, may be sent to the Bureau of Standards for the certification of the "A" factor. The report returned by the Bureau will make clear what corrections, if any, are to be applied.

"The A. P. I. committee on viscosity standards has also practically completed its work on Saybolt Universal at 210 degrees and Saybolt furol. It has been ascertained that a tube accurately standardized at 100 degrees has the same correction curve, if any, at 210 degrees.

"In connection with the sub-committee on viscosity of committee D-2, the present A. S. T. M. method for Saybolt furol and universal viscosities has been improved to provide for the following in standardization work and referee tests:

"(a) The bath in all cases shall be distilled water.

"(b) The bath temperatures shall be:

Bath Temperature	For Viscosity Determination at
Not higher than 100.25°F.	100°F
Not higher than 130.50°F	130°F
Not higher than 212°F	210°F

"(c) The room temperature must be between 68 degrees F. and 86 degrees F.

"(d) The bath must be maintained at a constant temperature throughout the entire test and a temperature such as will give the required standard temperature (100 degrees, 130 degrees, or 210 degrees F.) in the oil tube when thermal equilibrium has been reached just prior to withdrawing the thermometer and running the test.

"(e) The water bath for the 210 degrees determination shall be heated by live steam injection and, if necessary, the bath shall be closed and a back pressure put on it sufficient to secure the required temperature, which shall not be above 212 degrees F.

"These conditions are in agreement with those employed in the better laboratories and introduce no new hardships in viscosity determination.

"It should be realized in viscosity determination that absolute temperature control and accurate thermometers and a properly standardized instrument are essential for good results. Temperature control cannot be effected without a well-stirred bath. The orifice of the instrument is easily damaged and this should be constantly kept in mind.

"The current A. S. T. M. method for determining Cleveland open cup flash and fire has been well scrutinized during the past year, by the chairman of the sub-committee sending out 10 samples of oils ranging from 300 degrees mineral seal to 630 flash Pennsylvania stock, to nine different laboratories. In general the agreement of the results is satisfactory. This investigation brought out that it is absolutely essential all drafts be excldued from the vicinity of the cup during the determination; also, the rate of heating must be kept uniform and normal. In cases where laboratories deviated from what are the apparently correct results, deviations were caused by failure meticuously to follow out the method.

"The new method provides for the use of a plate with a hole almost the size of the cup cut in the center. This permits maintaining the proper temperature rise with a poorer gas burner. With this new plate which makes no difference in the results as demonstrated by the work described above, no difficulties should now be experienced in heating.

"The sub-committee of wax of committee D-2 have demonstrated that the press methods for determining oil and moisture in wax is reliable and this committee is now working hard towards the perfection of a satisfactory method.

"This department again emphasizes the necessity of working with standard apparatus and of exactly following the printed methods in all referee and inspection tests. It is not intended that these tests be used in plant control work although many of them can be so used to advantage."

The department calls attention to the leaving off of cotton from the bulb of the thermometer in a distillation test of gasoline, naptha and kerosene; the adoption of the federal specification board's test for free acid in lubricating oils and the board's method for determining cloud and pour points, and the A. S. T. M. method in distillation of gas oils.

Another Month Allowed In Cracking Suit

Staff Special

CHICAGO, Sept. 25.—The case of the United States government against the oil companies, alleging combination in restraint of trade in their interlocking agreements on cracking patents, has been postponed again. So many of the named defendants are without the territorial jurisdiction of this court that much time has been necessary to get service on them.

A second motion has been filed in the case by the district attorney E. A. Olson postponing the time when the defendants must answer. Now they have until Oct. 20, 1924. A brief statement of the motion was filed in the case on Monday, Sept. 8, superceding a similar one which became effective a month before. Now all the defendants have until Oct. 20 to appear, answer or otherwise plead to the bill of complaint.

The case is called United States vs. Standard Oil Co. et al., and the number is Eq-4131 in the U. S. District Court, northern district of Illinois, on the sixth floor of the Federal building, Chicago. Attorneys have appeared for several of the companies named as defendants. Only three formal answers have been filed, however. They are by White Eagle Oil & Refining Co., American Refining Co. and Grayburg Oil Co.

Mining Congress Meets in California

GOLDEN, COLO., Sept. 26—The annual meeting of the American Mining Congress is under way at Sacramento, Calif. It was set for Sept. 29 to Oct. 2.

In connection with the congress, the fifth annual oil shale conference is in session. The Colorado School of Mines planned to install a working exhibit in which oil and gas is produced direct from the shale and gasoline made from the oil. An exhibit of oil shale from foreign countries is included in the program.

Either Admiral Jones or Admiral Rousseau of the U. S. Navy, are expected to speak on the interest of the Navy in an experimental plant. Lieut-Col. Ball of South Pasadena, was scheduled to describe the new Trumble oil shale cycle distillation plant, and R. M. Catlin to tell of his plant at Elko, Nev., according to Victor C. Alderson.

IN THE MAILBAG

Oil Investments Near Ten Billions

FREQUENTLY requests are received asking for estimates of the total capital invested in the oil industry in the United States and the amount of physical property the industry possesses. A recent inquiry was for the amount of capital invested by Independent; total invested capital in the industry; number of Independent refineries, and the total number of refineries.

There is no accurate compilation of the total investments of oil companies because of the inability to get data concerning the financial worth of hundreds of small and medium sized companies, but the best recent estimate was that given before the LaFollette investigating committee early last year by R. L. Welch, secretary of the American Petroleum Institute, based on financial statements issued at the end of 1921:

Standard Companies	$2,495,245,026
Independents	2,300,314,671

At present it is reasonable to estimate the net worth of the Standard companies at more than three billion dollars. As the figures for the Independents are for only a small portion of the total number of Independent companies operating in the country, it is reasonable to estimate their net worth as between five and six billion dollars, thus bringing the total net worth up to approximately ten billion dollars.

The figures given by Mr. Welch were arrived at by accountants employed by the institute who searched all of the leading financial publications for reports of oil companies.

There are approximately 500 refineries in the United States of which number 45 belong to the various units of the Standard Oil group. Many of the remaining Independent plants are shut down. A report of the Mid-Continent Oil and Gas Association for the Mid-Continent field as of Feb. 1, 1924, shows there were 303 plants in Arkansas, Kansas, Louisiana, Missouri, Oklahoma and Texas. Of this number three were at that time under construction, 164 operating and 136 shut down. Eleven of the total are classed in the Standard Oil group.

SOME FUSSY OLD LADY COME ALONG AND TRY TO UPSET THINGS?
MY GRACIOUS— POOR CHILD-ALL RUN DOWN— QUICK MY TONIC!
FAKE GAS TONIC
GOOD GASOLINE
SEDGWICK
AND BESIDES, WHOEVER HEARD OF GIVING A HEALTHY KID LIKE THAT A TONIC, ANYWAY?

Geologist Given Credit For Field

W. W. Hubbard writes from San Angelo, Texas, regarding the "discovery" well of the Big Lake field, in Reagan county, to the effect that an injustice to Hugh H. Tucker, geologist, consists in attributing the successful location to chance, when Mr. Hubbard says, "incontrovertible evidence is available to prove its location was scientifically made."

Continuing, Mr. Hubbard says that "the location was the result of long months of geological exploration, undertaken by Mr. Tucker at his own instance and expense, and inspired by his earnest desire to provide additional funds to the University for the education of our youth."

Mr. Hubbard forwards sworn statement of H. J. DuBois, under date of September 16, 1924, with regard to the accuracy of telegrams signed by Frank T. Pickrell of the Texon Oil & Land Co., and a letter of Haymon Krupp, also of the Texon, giving credit to Tucker for geological location of the well.

Another Carbon Preventer Brings Up Question

Can you put something into motor oil that will prevent it from depositing carbon in the engine? That, in effect, is the question asked by a reader. Somebody is trying to sell this jobber something which he claims, when added to oil, will prevent carbon formation.

There is a good deal of misunderstanding about this question of carbon. There is no such thing as a "carbonless oil". Oil is composed of hydrogen and carbon in something like the proportion of 80 per cent carbon to 20 per cent hydrogen, although this percentage varies, of course. The carbon, though, always heavily predominates.

Most any chemist familiar with the oil business will tell you it is not how much carbon the oil contains that is important but how much it will deposit in the engine cylinders during operation of the car. He will also tell you that the carbon deposit depends on what is taken out of the oil in refining rather than on something that can be put into the oil afterward.

THE EDITORS' VIEWPOINT

Eliminate The Free Service

WITH the arrival of narrower margins, together with the examples set by the governors of South Dakota and Nebraska, perhaps the oil marketer will again give some study to charging for his air service at stations.

Seriously, while the respective governors have indulged in much bunk in their campaigns against the oil industry, they have been right from a plain business viewpoint in arguing that the business of the oil industry is to sell petroleum products and not to give away air.

The oil companies should furnish every service that has to do with the fueling of cars. But when they go beyond that they get into the realm of kewpie dolls, candy, and if the price of Fords drops much more, they may throw in a couple of those.

Along with cutting out the free air, should come elimination of free greasing. If the industry charged ten times what it does for grease no car could possibly use enough to warrant an oil company throwing in the service of greasing free. Filling crankcases free is right on the border line. As that operation probably will be made more simple in the future by automobile engineers probably the oil industry can afford to continue the practice. But greasing will have to be simplified a few thousand times before its free application will be warranted.

Every separate business activity should stand on its own costs and profit.—W. C. P.

Gasoline Prices Now And In 1913

THE average motorist would be exceedingly surprised if you told him the price he pays for his gasoline today is practically the same as he paid in 1913, if he was driving a car then. In fact, with the decline in Standard of Indiana territory which took place in September, the price at some points in the Middle West is likely a trifle less than it was in 1913. The conclusions upon which the above statement is made are not our own, but taken from the study of wholesale prices made monthly by the federal department of labor.

From the same source the fact is derived that the price of gasoline, in comparison to the 1913 prices—taken as the last normal year before the war, is lower than for the great majority of commodities the average person purchases. Yet a great many people carry in their minds the idea that they pay more for their gasoline than they ought to. The reason undoubtedly is partly the political agitation that goes on against the oil industry; but more, it is likely, the price-cutting that has gone on the last two years or so in gasoline prices.

When a man drives down the avenue in his car and sees a price posted at a curb pump a cent or so lower than the oil companies are charging at their service station, he naturally thinks the oil companies are overcharging. If a lone dealer with one or two pumps can undersell the oil companies, with their better facilities and larger resources, he thinks the oil companies are too high, seldom that the one-pump man may be too low. Chances are if the conditions which enable the one-pump man to sell at that price were carefully explained to him, his view would not be changed much.

Yet the figures of the department of labor for various classes of commodities show gasoline selling at a lower price in relation to 1913 prices than any other class of commodity. In August—before the September declines—the price of gasoline, tank wagon in New York, was 112 per cent of 1913 prices. Oklahoma crude was 147.2 per cent and Pennsylvania crude 112.2 per cent. Compare these with farm products at 145.3 per cent of the 1913 level, clothing at 189.9 per cent and the fuel and lighting group generally at 169.7 per cent of 1913 figures, house furnishings at 171 per cent and so on.

It looks as though the oil business needs, as much as anything else, a rattling good press agent to get its story over to the public. Study the labor department figures in the table carried in the Market Section of this issue. A similar table will be carried each month. There are several good answers there to arguments that come up on gasoline prices—V. B. G.

New Ideals And New Problems

NEAR the bottom of an address by Chairman Bedford of the Standard of New Jersey, delivered to a class of employes graduating from one of the company's schools, are the following stray sentences which show that some new points of view are being taken by big business executives from what obtained a few years ago:

"Times change. Methods of mere perseverance and dominating personalities which may have been successful twenty years ago are no longer adequate. Public opinion changes. What was considered proper ten years ago today would be ostracized and condemned. We are advancing all along, especially in higher ideals in business ethics and business methods, so that the necessity today is for better equipment, more information and more education.

"So, from the standpoint of our country, which means our social stability and effective government, we have to confess that the great national danger is economic ignorance. The masses of people are beginning to think for themselves, they are doing it all over the world; but the trouble is the masses are not correctly informed. What the mass needs is political and economic education."—W. C. P.

Just imagine how tourist school teachers will wring their hands when gondolas in Venice go sputtering about gasoline driven. Decree of authorities there calls for motors in the future, and the picturesque gondolier and his single oar are doomed.

There's one thing to the credit of the fake gasoline tonic manufacturers. They haven't yet started publishing faces and "I had that run down feeling" letters in the newspapers, as the patent medicine people do.

What is so rare as a day without a crude or tank wagon decline?

The Eiffel Tower was constructed by A. G. Eiffel in Paris, France, for the Paris Exposition in 1889. Its original purpose was to carry out the ideal of the builder in constructing the world's loftiest structure.
It is of steel construction, 984½ feet high. It has three floors or stops, served by elevator. Restaurants and refreshment stands are located on these floors. A trip to the top of the tower costs about 15 cents. During the war the tower was very valuable as a wireless station.

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INTERNATIONAL PETROLEUM EXPOSITION AND CONGRESS TULSA, OKLA. OCT. 2 - 11

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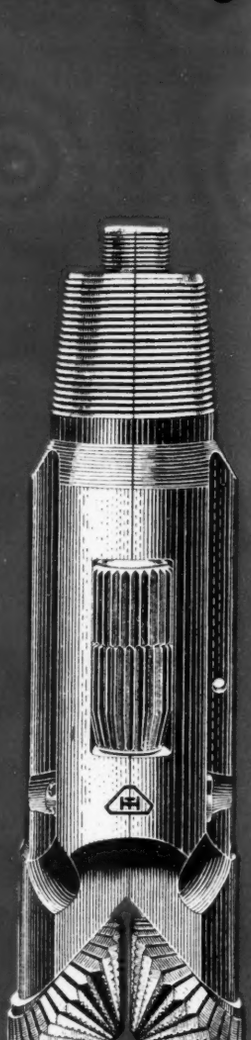

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Careful Study Of All Factors Required In Taking Care Of Old Wells

By J. S. Cornell,
District Foreman, Hope Natural Gas Co., Littleton, W. Va.

Presented Before West Virginia Oil And Natural Gas Ass'n, Charleston, Sept. 18

Mr. Cornell, who prepared the accompanying paper, has been closely associated with the development of new gas territory and the care of producing wells for many years. The paper was read before the West Virginia Oil and Natural Gas Association on Sept. 18 at Charleston, and received considerable discussion by the audience. The part devoted to the handling of water in gas wells was especially prominent in the discussion.
—Editor

THE proper care of old gas wells is a subject about which there can be much said, since the gas well is, in itself, the most important feature of the natural gas industry. For our consideration we will think of the gas well under three headings: Drilling and proper equipment, operating and abandoning.

In considering the drilling of a well we should first familiarize ourselves with existing conditions in the prospective territory in which the wells are to be drilled. The knowledge thus gained will enable us, in a measure, to determine in advance the material necessary to be used, and many of the obstacles likely to be encountered.

One of the most important features of the drilling of a well is the keeping and preserving for future reference a complete and accurate record of the different formations drilled through, their exact thickness and depths and correct measurements on points where gas, oil and water is found, as the men who do the drilling are seldom on the job a few years hence, when it will be necessary to make repairs on the well. One must rely almost entirely on the available records to guide him in his proceedure during repairs to a well, otherwise he would be greatly handicapped in the work.

Reference here will be made more particularly to the deeper sand territory, where we are likely to strike a flow of gas in any or all of the sands below the Pittsburgh coal.

The first consideration should be given to the size hole to be drilled and the proper casing of same. It is of the utmost importance that the different strings of casing be run to the proper depth, this being a very difficult task in some sections of the field, due to bad caves which must be drilled through.

In territory where large volumes of water are drilled through and a string of casing has been run to shut off the water, very good results may be had by putting a portion of pure clay, (white clay preferably) properly mixed and screened, down around the string of casing, allowing it to settle through the water acting as a seal at the bottom of the casing, preventing the water from going through on to the gas bearing sand below the casing.

Must Use Pure Clay

Great care, however, should be exercised in selecting the clay to be used in this manner, to see that it contains no grit, as the grit would have a tendency to make the casing stick, making it difficult to pull.

It goes without saying that in the event of gas being found in any of the shallow sands in sufficient quantities to justify saving and discontinuing the drilling for a time, that this does not necessarily obstruct the plan of the well, as most shallow sand gases exhaust in a short time and drilling may then be resumed and carried forward to completion.

We find that in most cases it is advisable to tube the wells at the time of completion, especially in old territory where the rock pressure has greatly declined, this will add in keeping the well producing, due to the fact that most wells in an old field make more or less fluid with the gas and the smaller opening will aid in bringing the fluid to the surface with the gas. The fluid may then be separated from the gas by means of a drip which should be installed in the line near the well.

Attention should also be given to the proper installation of perforations in the tubing as it is important that the sands be kept dry and this can best be done by placing a section of the perforation on the bottom of the tubing and a second perforation with the top located near the center of the gas pay and extending down below the bottom of the gas pay.

In most cases where there appears to be no danger of drilling into water below the gas, there should be a pocket drilled below the gas pay to afford a drainage from the same.

Thus we have followed the drilling of the gas well through the various stages, such as leasing, locating, road making, moving in material, drilling and completing.

Our attention must now be directed to the all important factor, operating, and there is one point in this connection that we wish to bring to your mind very forcibly, and that is, without the successful operation of the wells the business will suffer much loss.

It is well known that when wells have been in continuous use for some time that most of them begin to decline in volume and pressure, thus causing them to have less resistance in keeping back the water, also less lifting power in bringing to the surface the water that comes in with the gas.

Watch Water Troubles

In order to get the best results the wells must be kept in condition to produce the maximum output of gas at any time needed. When they are found to be failing in this particular we must then diagnose the trouble. Careful investigation usually discloses the fact that most of the trouble is caused from water getting in on the sand, either through faulty casing or tubing, or, by coming in with the gas. The source of the fluid can usually be determined, and upon this information depends the future procedure with the well.

If the casing or tubing is found to be leaking then it should be repaired at once, as a permanent injury to the well may result in territory where acid in the water eats holes through the casing and tubing, letting in water, mud and sediment of different kinds on the producing sands, the water pressure forcing same back into the sand which hardens and acts as a cement, sealing off the gas. It is possible, however, to restore a well in some such cases by shooting and cleaning the well out after the casing has been repaired. If the water is found to be coming from the sand and the well does not have sufficient flow and pressure to produce the water through a drip along with the gas, then the water must be disposed of in some other manner.

There are various methods by which fluid may be extracted from a well, such as blowing, bailing, pumping, etc., and we must at all times seek to eliminate the fluid in such manner as will give the best results, keeping the well in condition to produce its maximum output of gas, wasting the least gas possible, and at the same time reduce the cost to a minimum.

(Continued on page 67)

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(Continued from page 63)

Some wells can be kept in condition to produce for a time by blowing the fluid out, this, however, should not be done except in cases of emergency. Other wells we may find it necessary to bail once or twice a year, and later on the process repeated three or four times a year. Bailing a well once, twice, or three times a year does not always tell us that it is kept in condition to produce its maximum amount of gas. This can be determined best by frequent open flow tests being taken of the well.

A well that makes a volume of water too large to bail satisfactorily and has a flow of gas sufficient to justify the expense of drilling a pocket below the gas pay sufficient to take care of the water for a short time, may some time be profitably handled by installing a pumping outfit, the water could then be pumped off the sand.

We will consider bailing and pumping water off the sand the two best methods of taking care of the fluid. One can readily see that when a well declines in flow and pressure to a point where it will not produce enough gas to pay the royalty, interest on the money invested, taxes, cost of operating, depreciation and a reasonable per cent of profit, then immediate action should be taken to correct the trouble.

In this connection we might make some comparisons in order to glean some idea of the best methods suitable to any particular case and the costs connected therewith.

A well costing $15,000 and having an open flow of 100,000 cu. ft. per day must pay.

Royalty, $300.
Interest at 6 per cent, $900.
Taxes at 2 per cent, $300.
Depreciation at 5 per cent, $750.
Labor operating, $80.
Bailing once, $70.
Total, $2400 per year.

If a well is bailed more often this would add about $70 to $100 each time bailed.

Thus if a well is kept producing to the extent of 65 per cent of its open flow for a period of nine months in the year, it will have produced approximately 17,550,000 cu. ft. and figuring it worth 15 cents per M. cu. ft. at the well, or $2632.50, making a very slight margin above expenses which could be considered profit.

The amount of gas wasted while bailing would be slight as compared with some other methods as the well would be open for about 8 hours per day until bailed on bottom, after which time the well would be open just long enough each day to bail the water that would accumulate over night from the sand, and the well should be turned into the line the rest of the time.

Pumping Adds to Cost

When it is found necessary to install a pumping outfit it usually requires a rig to be erected, tools moved in, well cleaned out, pocket drilled and a liner installed. This could be done with a gas engine and reduce the cost of fuel and water, leaving the gas engine installed for pumping the well.

Thus an added expenditure would be incurred which we will estimate approximately as follows:

Cost of rig	$1800
Cleaning out and drilling pocket	1000
Gas engine	800
600 ft. 4½ x 4 in. liner	240
3000 ft. 2 in. tubing	660
Pumping outfit	300
Miscellaneous	200
Total	$5000

which added to the original cost of $15-000, making a grand total of $20,000 which would yield sufficient to cover the following:

Royalty	$ 300
Interest at 6 per cent	1200
Taxes at 2 per cent	400
Depreciation at 5%	1000
Labor operating	250
Total	$3150 per year.

The labor expense might be reduced some on wells that would not require pumping as often as once each week.

We must also consider the gas wasted during the process of cleaning out and drilling pocket preparatory to installing a pumping outfit, for a period of thirty or forty days, and occasionally during the time that a well would be open while pulling tubing and repairing the pumping outfit. Fuel for pumping also must be considered. Then we will note that the well must produce approximately 21 million cu. ft. or about 78 per cent of the open flow of a well of 100,000 cu. ft. before it would show any returns which could be called profit.

Removing Salt Deposits

The formation of salt into a solid in the casing or tubing is another condition which claims our attention in some sections of the field and it is sometimes diffcult to eliminate. A good remedy in some cases is to use fresh water to dissolve the salt, in other cases crude oil poured down the well will answer the purpose, while others may require potash, or lye, while in some instances it might be necessary to drill the salt loose before applying the above remedies and then bail the fluid out. Drilling the salt out of tubing may be done with the use of a bailing machine, equipped with a crank attachment to the shaft on the sand line drum, and used in a similar manner as that used in spudding.

During the summer months when the consumption of gas is at its minimum, it is advisable to shut in all wells possible, giving them a chance to rest two, three or four months, during which time they should be free from fluid in order to insure the proper functioning when needed. We should urge a hearty co-operation among companies in a field relative to shutting in wells during the summer months.

One might ask what bearing the abandoning of one well might have on the operating of another well. We must not lose sight of the fact that many wells drilled in the same field and producing from the same sand, are very closely related, inasmuch as the sand is porous in nature allowing both gas and water to travel toward the point of least resistance.

Then it is very important that we use all due precaution in abandoning wells to see that the sands are properly protected from great volumes of water that has been drilled through since the rock pressure of the wells declines much more rapidly than does the water pressure. Great care should be taken that all gas is shut off when abandoning, being sure to protect the sand from drainage, thereby maintaining the rock pressure as much as posible. The draining of the sands and lessening of the rock pressure in the field inevitably leads to a great expense installing more and larger lines and installing and equipping pumping stations to take care of the low pressure gas that could not otherwise be reached or produced.

In conclusion, we should seek to plan, drill and equip the wells in such manner as will admit of the successful future operation of same. Operate the wells in a manner that the sands be kept dry and free from any and all matter that would hinder or divert the flow of gas. Abandon the wells in a manner that will insure the protection of the gas bearing sands against drainage of gas and induction of large volumes of water into the sands. Eliminate all leakage possible and conserve in the use of natural gas at all times.

Oil And Motors Stock Promoters Billed

HOUSTON, Sept. 26.—A hark back to oil promotion days is contanied in the report of the federal grand jury billing W. W. Ridenour and George Hills, Jr., of London, in connection with the Packers Oil Co., and the United Packers Oil Co., C. C. Cannan of Houston in connection with the Texas Royalty Syndicate and the Gulf Royalty and Production Syndicate; Winston C. Gaines, in connection with the Securities Holding Co., the Gaines Oil Lease Syndicate, Mexia Oil Fraternity, Associated Smackover Syndicate, Great Texas Brewster Oil Co., Southwestern Bond & Mortgage Co., Bankers & Planters Underwriting Syndicate, Great Southern Production Co., Trammel Production Co., Jones Oil Co., and Service Oil Co.

Eighteen indictments were returned against officials and others on mail fraud charges having to do with the promotion of the Southern Motors Manufacturing Association, Ltd., which was headed by Jacques E. Blevins as president, and others. Southern Motors was one of the big southwestern promotions operated out of Houston about the time the S. E. J. Cox promotions were at their height several years ago.

Tax Valuation On Oil In West Virginia Compared With Other Property

By J. P. Flynn,
Vice-President And General Manager, Reno Oil Co.

Read Before West Virginia Oil & Natural Gas Ass'n, Sept. 19

VALUATIONS for taxing purposes are subjects for much discussion and much difference of opinion. In the state of West Virginia property is supposed to be assessed at its true and actual value—that is not what it would bring at a forced sale, but a fair market value such as would be arrived at by a willing buyer and a willing seller. It is obviously impossible to set these valuations with exactness and all that we can hope is to have a fair minded taxing body which will approach the problem without prejudice. Unfortunately we of the oil industry do not feel that we have had such treatment.

I am of the opinion that the true and actual value—that is a one hundred per cent valuation—forms the best basis for the assessment of property for taxation. But the fairness of this method depends upon its universal use throughout the state. If some property is put on the tax books at full value and another property at less than full value, it simply results in taxing one property at a higher rate than another. This is neither fair nor lawful.

Since the time whereof the memory of the oil man runneth not to the contrary, it has been the pratice to speak of oil production as worth so much per barrel. From the early days in the industry, developed oil property has been bought and sold on the basis of daily production. It, therefore, naturally followed that oil property came to be assessed on the per barrel basis, and, I believe, that this basis is perhaps the best that could be used, especially when we consider that market value applies, and that daily production is the basis of most transactions in the buying and selling of oil production.

Fix Arbitrary Figure

For the sake of uniformity, it has been the practice of the state tax commission of West Virginia for several years past to have the county assessors at their annual meeting in Charleston fix the valuation at which oil production is to be assessed throughout the state at so much per barrel. Such procedure is, so far as I am able to learn, without authority of law. While uniformity is no doubt desirable, we all know that there is a great variation in the value of oil production per barrel. The variation in the lives of the producing sands, the difference in lifting costs, the age of the production, the condition of the physical property, and many other operating conditions serve to make a difference in values. If, therefore, we are to tax oil production throughout West Virginia at the same figure, we must, if we would be fair, attempt to fix that figure at what would be average market value of the production throughout the state.

This year throughout West Virginia oil production is valued for taxing purposes, at $3,000 per barrel. It was so decided, at a meeting of the county assessors of the state by a divided vote, with about 20 assessors from the entire state present, and voting. A number of the assessors were from counties which produce no oil, but they voted on the question of valuation. I say without hesitation that I do not think that you could find any individual, or company who would pay that price for every barrel of production in the state. At this meeting instances were cited where large properties had been sold in the state at less than this figure. We oil men realize at times that we make some bad guesses, as to the value of oil property; but I insist that we are not yet ready to admit, that the county assessors are better judges than are we.

Seven Per Cent Of Gross

The valuation of $3000 per barrel covers only the operated leaseholds, including physical equipment, in actual use thereon. Unoperated leaseholds, and materials on hand not in use, are assessed also. The figures recently furnished by the oil companies to present to the state tax commissioner, in connection with hearing on the question of valuations, shows that the oil producer is paying for state and county taxes from 14 to 21 cents for every barrel of oil produced. The variation arises by reason of the difference in the county levies. The average is, I believe, about 18 cents, which at our present oil market, amounts to approximately seven per cent of our gross income or gross sales. And yet we hear a great hullabaloo from some of the manufacturing interests of this state concerning a gross sales tax of one-fifth of one per cent. The oil man is paying two-fifths of one per cent gross sales tax and his full direct tax on more than a one hundred per cent valuation.

Some one may contend that our gross income, or gross sales are somewhat different from the sales of a manufacturing concern in that we have a greater margin of profit The costs given at the hearing before the state tax commissioner, showed that last year it cost the various companies from $2.67 to $4.00 to produce a barrel of oil in West Virginia. I would be glad to give the oil producer's figures showing how the amount of state and county taxes compares with net income, were it not for the fact that for the past several years, the average oil producer has had no net.

We have contended that our valuation is more than one hundred per cent. The tax commissioner has secured uniformity and I believe that the taxing body of every county in the state has assessed oil production at three thousand dollars a barrel. Now let us see how some other industries fare. He has secured neither uniformity nor full value in the assessment of some of the other industries of the state. Let us take for example, two manufacturing plants located in a county, which also produces oil and gas. We find that one company with a capitalization of $1,000,000, the stock being quoted on the Wheeling Stock Exchange at 140, has an assessed valuation of less than $335,150. Another company with a capitalization of $750,000 the stock being quoted at 110, has an assessed valuation of less than $256,050. Instances of this kind, certainly make the oil man feel that he is not being treated fairly.

I have no remedy to suggest, or course of action to recommend. We have, I believe, a good ground for action in the courts and it may be that we should go there for relief. We stand in the same position as the Sioux City Bridge Co., stood in a case brought by that company against the taxing body of Dakota county, Nebraska, decided by the Supreme Court of the United States on Jan. 2, 1923. Mr. Chief Justice Taft in delivering the opinion of the court, among other things said:

"The charge made by the bridge company in this case was that the state, through its duly constituted agents, to-wit: the county assessor and the county board of equalization, improperly executed the constitution and taxing laws of the state intentionally, and arbitrarily assessed the bridge company's property at 100 per cent of its true value, and all the other real estate and its improvements in the county at 55 per cent. This court holds that the right of the taxpayer whose property alone is taxed at 100 per cent of its true value, is to have his assessment reduced, to the percentage of that value at which others are taxed, even though this is a departure from the requirements of the statute. The conclusion is based on the principle, that where it is impossible to secure both the standards of true value, and the uniformity, and equality required by law, the latter requirement is to be preferred, as the just and ultimate purpose of the law."

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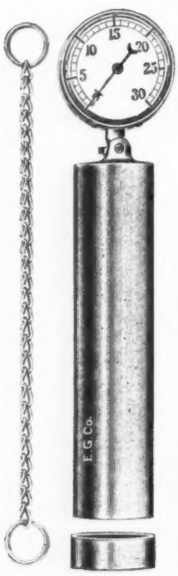

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Chicago — Waterloo
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Salt Lake City

ON THE LAZY BENCH

Such Ignorance

A lawyer was conducting a case in court, wherein one of the witnesses, a negro confessed to being engaged in a crap game with the defendant. Immediately the lawyer said: "Now I want you to tell the jury just how you deal craps."

"What's dat?" asked the witness, rolling his eyes.

"Address the jury," thundered the lawyer, "and tell them just how you deal craps."

"Lemme outa heah!" cried the witness, excitedly. "Next thing Ah know dis gemmen's gwineter ask me how Ah drinks a ham sandwich."

—Magnolia Oil News

* * *

Shouldn't Have Gone Along In The First Place

They were on their honeymoon trip in the mountains, and the bride's mother had insisted on accompanying the otherwise happy couple. Suddenly the groom yelled:

"Phyllis, Phyllis! Your mother has fallen over the cliff."

"Heavens! Is she badly hurt?"

"Not yet. She hasn't stopped."

—Ioco Times

* * *

His Only Drawback

The boss was dictating to his new and pretty stenographer. Suddenly he stopped.

"Am I too fast for you?" he asked.

"Oh, no, indeed, but you are a trifle old."

—Magnolia Oil News

* * *

Doubtful Complaint

Car owner—"I thought I told you to grease my car all over."

Garage-Man—"And we did it."

Car Owner—"You did likell. I can see, from here, two places on the ceiling that you missed."

—Pennico News

* * *

The Week's Shortest Story

"Pardon me, but are you Doctor Jones?"

"No, but I know where you can get some."

—Pennico News

* * *

Famous Floods—

Noah's
Johnstown's
Galveston's
Bradford's

—Penn Pure Magazine

Another Sunday School Story

Six-year-old Dorothy was used to hearing more or less shop talk at home, both her parents being, at one time, in the advertising business.

Last Sunday she brought home from Sunday School a golden text. Her mother, seeing something in her hand, asked what she had. Dorothy immediately replied, with a little shrug of her shoulders, "Oh! only an ad about God."

—Ioco Times

* * *

An Irishman Wrote This

Two Scotchmen and an Irishman landed in the States.

The Scotchmen were the first to pass the customs. When Pat came up, the official addressed him as "Sandy."

"It's no Scotchman Oi am," said Pat. "Oi was saysick all the way over and that's what makes me look so mane."

—Ioco Times

* * *

Current Court News

A man was arrested for assault and battery, and brought before the judge.

"What's your name, your occupation, and what are you charged with?" asked the judge.

"My name is Sparks, I'm an electrician, and I am charged with battery."

"Officer, put this man in a dry cell."

—Ventura Mission

* * *

Just as the guards were leading his client away, the lawyer stopped and shook hands sadly with the recent defendant.

"I'm sorry I couldn't do more for you, old man," he apologized.

"Don't mention it, sir." replied the prisoner politely. "Ain't five years enough?"

—Pennico News

* * *

A Deduction

If you wish to know whether a man has been at work, look at his palms. If you wish to know whether a girl has been at work, look at the third finger of her left hand.

—Magnolia Oil News

* * *

"I'm very careful, I always send my children out of the house before I quarrel with my husband."

"The little dears, they look so healthy from spending their time in the open air."

—Magnolia Oil News

New Home Of Standard Oil Adds To Skyline Of Lower Broadway

NEW YORK, Sept. 29.—The latest addition to the skyline of lower Broadway, New York, is the recently completed $7,000,000 home of the Standard Oil Companies of New Jersey and New York. The tall building in the accompanying photograph, which was taken on Defense Day, is the new headquarters. Whether it will be known as "26 Broadway" is not known as yet, but it stands right next door, the old headquarters being the building just beyond the new structure. The new building is of the tapering type, which is replacing the old box type of building that allows no air nor light on the street. It is 22 stories, or 505 feet high, with a 10-story tower which is surmounted by a decorative pyramid. The bottom tier of the structure is 10 stories, then the first cut-in is at the 16th story, the next at the 18th, and the third at the 22nd story. The tower rises above the 22nd story.

Cities Service Employes Hold Picnic

BOSTON, MASS., Sept. 29.—A picnic was held recently at Riverside Park, near Boston, by the Cities Service Refining Co., and the New England divisions of the Crew-Levick Co. and the Henry L. Doherty & Co. Those attending from the New York offices included Messrs. Wotowitch, Niedrach and Walker, and Messrs. O'Malley and Cronin from the Crew-Levick Co., Philadelphia.

A ball game between the office force of the Cities Service Refining Co. and the Crew-Levick Co. against the refinery operating department, resulted in a 13 to 2 score, with the office team emerging victorious.

Following the ball game, races, bathing and canoeing were indulged in. An elaborate dinner was served at 5:30, after which dancing was the main sport. Plans for the picnic were arranged through chapter 38 of the Doherty Men's Fraternity, Boston, according to C. W. Lewis of the Cities Service Refining Co., Boston.

CHARLESTON, W. VA., Sept. 27.—The Elk Refining Co. is preparing to drill another gas well on its refinery site property at Falling Rock. The company provides by drilling its own gas for fuel at its boiler house and stills.

LANSING, MINN., Sept. 29.—Lansing Co. reports that it started in business in April, 1924 just when the price cutter began his career, but that the company has survived and the price cutter "busted". "The worst ones are getting the prices back where they belong and we are in hope everything will be all right by next spring," B. L. Stimson, manager, says.

Indiana Refining Sales Increase

TRENTON, N. J., Sept. 29.—More than two carloads of pumps and tanks have been installed at the Columbus, Ind., plant of the Indiana Oil Refining Co. by H. H. Townsend, receiver, and president and general manager of the Citizens Oil Corp., Trenton. Mr. Townsend was appointed receiver for the Indiana on May 13 of this year and in that time the gallonage at the plant has been increased over 100,000 gallons a month.

Mr. Townsend reports that the Citizens company is erecting its 11th drive-in service station and is planning to operate ocean going boats which will make gasoline purchases from tank steamers.

The Champion Of Them All

THE Champion Two-Stage Complete Automatic Air Unit is without question the most highly recommended and improved air compressor ever built.

Exacting tests have been made by various engineers and they have agreed that one who buys a Champion settles his air troubles for all times. We especially recommend this unit for "Free Air" Stations.

The Champion is unequalled in every mechanical feature. It maintains high pressure in great volume; extremely quiet in operation; handsome in appearance; entirely automatic in operation; and requires little attention to keep in perfect running order.

Ask for the new Champion catalog

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Any Gravity Any End Point

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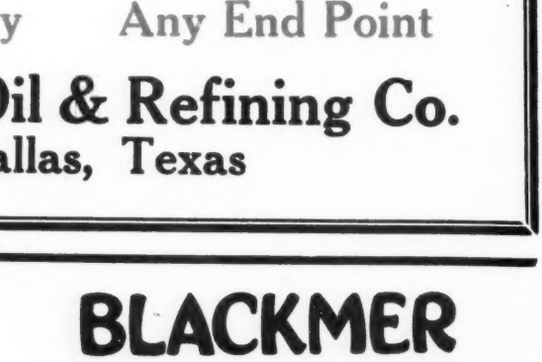
There is a Blackmer Unit to fit any pumping requirement of the Oil Industry. Capacity range from 5 to 500 gallons per minute.

They take up their own wear automatically; maintaining high efficiency after years of service.

Write us about your pumping problems. Our engineers are at your service.

Blackmer Rotary Pump Co.
Petoskey, Michigan

BLACKMER ROTARY PUMPS



New Oil Station Construction

Minneapolis, Minn.—A bulk station was recently completed at Montevideo, Minn. by the Pyramid Oil Co., according to C. E. Ekstrom, treasurer. The company plans to build a service station at that point in the near future. A service station is now under construction by the company at St. Paul.

* * *

Baltimore, Md.—The Red "C" Oil Co. has completed its filling station at Winston-Salem, N. C. Station is built of gray granite and is modern in every way, according to M. D. Moore, division manager at Winston-Salem.

* * *

Rolla, Mo.—A. M. Light, building service station, according to H. C. Casselman, manager of the Rolla Oil Co. Mr. Light has placed an order for storage tanks to hold a carload of gasoline.

* * *

Cheyenne, Wyo.—The Aero Oil Products Co. opened filling stations at Wheatland and Casper, Wyo. and report good business.

* * *

Montevideo, Minn.—John Hancock Oil Co. building bulk station. I. I. Braaten will be in charge of the plant.

* * *

Sioux City, Ia.—I. Miller & Co. erected filling station to be opened Sept. 30.

* * *

Storm Lake, Ia.—E. P. Mansfield building service station, to be opened on Sept. 30.

* * *

Smithville, Bastrop Co., Tex.—E. C. Williams building first drive-in filling station here.

* * *

Hillsboro, Ill.—Sinclair Refining Co. purchased site here for filling station.

* * *

Durand, Ill.—Bliss & Green to add a filling station to its garage building.

* * *

Smith Center, Kan.—Standard Oil Co. of Indiana to build filling station.

* * *

Hempstead, Tex.—Magnolia Petroleum Co. erecting filling station.

* * *

Leeds, Ia.—S. L. Miller will open new service station about Sept. 20.

* * *

Shreve, O.—Carl-Shelley Hardware Co. to build service station.

* * *

Perry, Okla.—Magnolia Petroleum Co. building warehouse.

* * *

Smithville, Tex.—E. Clay Williams erecting filling station.

* * *

Parsons, Kan.—Victor Louthan building filling station.

* * *

Granville, Ill.—C. N. Tyler to erect filling station.

Separation Of Wax From Wax Distillate

By L. D. Wyant
Chemical Engineer, Bartlesville Experiment Station

Delivered Before National Petroleum Association At Atlantic City

IN THE United States during 1923 more than one billion gallons of mineral oil lubricants were consumed—enough lubricating oil to fill a tank one-half mile in diameter to a depth of 24 feet. With the manufacture of this lubricating oil, more than 466 million pounds of comercial paraffin wax were produced. Some adequate idea of this amount of paraffin may be gained by considering that if it were loaded into box cars, 60,000 pounds to a car, it would make up a freight train 73 miles long.

Not all crude oils contain paraffin, the majority of the Gulf Coast and much of the California production being entirely free of paraffin. However, most Mid-Continent, Rocky Mountain and Eastern crudes contain considerable paraffin. Undoubtedly at least 75 per cent of our lubricants are manufactured from crude oil containing paraffin wax (so called paraffin and intermediate base crudes). In order to make satisfactory lubricants from these crudes, the paraffin wax must be removed. The removing of this material from the lubricating distillate is the most expensive single operation met with in the refining of petroleum.

Investment Is Large

The necesary investment for equipment to manufacture finished lubricating oil from paraffin or intermediate base crudes is astonishingly large. All refiners feel that the price received for lubricating oils is inadequate when the investment and manufacturing costs are considered. An attempt has been made to arrive at a fairly approximate figure representing the cost of equipment necessary to manufacture finished lubricating oil. From data available it would seem that a fairly well balanced plant running 5000 barrels of Mid-Continent crude per day would require an investment of $1,000,000 for lubricating oil manufacturing equipment alone.

With this investment, a production of 270 barrels per day of neutrals would be possible and perhaps 500 barrels per day of bright stock and steam cylinder stock. Together with this lubricating oil would be produced 15,000 or 16,000 pounds of paraffin wax.

The processing cost of lubricating oil is variable depending upon the type of crude oil and general plan of processing used. However, it is perfectly safe to say that the processing costs per gallon of finishing lubricating oils is the most expensive side of the petroleum industry.

Need For Research

The many fields open for scientific investigation of the various processes now used in the manufacture of lubricating oils, from paraffin or intermediate base crudes, have been only superficially investigated. This is borne out by the fact that different refineries operating on the same type of crude petroleum and having very similar installation costs make widely different yields of similar products. The methods used vary so considerably that they cannot possibly all be the best.

The Bartlesville station of the Bureau of Mines is making an intensive study of the various problems connected with the removing of paraffin from paraffin or intermediate base crudes. This investigation naturally divides itself into four divisions:

1. The preparation of the wax containing lubricating distillate;
2. Removing the paraffin from the lubricating distillate;
3. Refining the wax free oil to finished lubricants;
4. Refining the paraffin portion to finished commercial paraffin.

Since the generally used cold pressing method seems to remove quite satisfactorily the paraffin from the lubricating distillate it is evident that most important of the above mentioned divisions are: first, the separation and general preparation of the lubricating distillates before the wax is removed, and second, the subsequent refining of the wax free oil to finished lubricants.

REPRINTS of this article on wax distillates are to be made and will be available for distribution in any quantities at a nominal price covering the cost of printing. Orders should be sent to National Petroleum News at once because the type can be held only a short time. —Editor.

Develop Equipment

The Bartlesville station has developed a fairly complete semi-commercial refinery to study this problem. This refinery consists of four stills ranging in capacity from one to five barrels, together with the necessary condensers, storage tanks, rundown tanks, and agitators. These stills are arranged so they can be used as straight steam stills or steam and fire stills, or both. They are equipped to burn either or both oil and natural gas.

The refinery equipment further consists of a battery of four continuous stills of 10 gallons charging capacity each, a special pipe still and a small, especially built crude oil analysis fractionating still. All this equipment is provided with the necessary auxiliary equipment, instruments, etc. Thus the Bartlesville station has distillation equipment sufficient to handle any volume of oil up to 50 barrels per day.

A separate building has been constructed to house the wax research equipment. The equipment of this building consists of a two-ton refrigerating machine, a 10 by 10 foot cold room, a small steam heated high temperature room and a semi-commercial wax sweating oven. The cold room is equipped with cold settling tanks, a 12-inch standard type wax press and a suitable wax distillate chiller.

The refrigerating unit is especially built to use volatile gasoline as a refrigerating medium. The semi-commercial wax sweating oven has a total capacity of 25 gallons of slack wax. In passing it is well to mention that this equipment has been built and perfected only after a considerable amount of work was done perfecting the various necessary details.

British Testing Methods

For the most part the processing done to remove paraffin wax is very similar in all refineries. It is only when one begins to study and compare the processes used by various refiners that the considerable difference in detail becomes apparent. When all these various differences of operation are considered it seems remarkable that products of such general similarity are produced.

This condition exists in no small part because investigators have been handicapped by not having sufficiently reliable, direct and convenient methods of measuring the results of their research. The lack of satisfactory methods for testing was the first difficulty encountered in beginning this investigation. For example, consider the problem of analysis of oil-wax mixtures, such as are encountered in the various steps of processing of paraffine wax. The entire plant control, and for the most part all refinery investigations on this phase of refining, have been carried on using melting points as a general criterion.

Melting points, however, at best do not and cannot give reliable indications as to the composition of oil-wax mixture. When three or more components are present it is possible to make several mixtures of different compositions which would have the same melting point. In the products encountered in slack wax mixtures or in sweating of slack wax particularly in the "foots oil" and "intermediate wax", the number of components is very large, consequently

If you are interested in learning how other oil companies are reducing truck maintenance costs in the producing, refining and marketing divisions see the working exhibit of Gruss Air Springs; Space 5, New York Building, International Petroleum Exposition at Tulsa, Okla.

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Cleveland, Ohio

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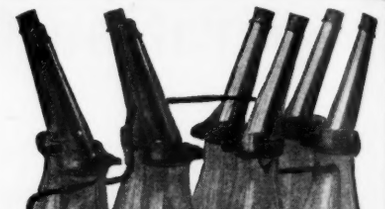

Quick Service

Gets each car out of the way in double-quick time and the place open for more—and the quicker the service the bigger the profits.

No waiting at the pump when Quick Service Oil Bottles are at hand—no fidgeting by the driver while an old style measure is being filled and emptied—just what the name implies, quick service cleanly given.

And a couple of trays at the pump not only mean quick service but suggest fresh oil to the customer as his gas tank is being filled.

Try a few!

You furnish the bottles—Milk Bottles—they fit the hand.

Spouts		Trays	
Six	$2.00	For 6 Bottles	$1.00
Eight	2.65	For 8 Bottles	1.35
Twelve	3.60	Not including spouts	

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the melting point is of little value in indicating the composition of the mixture.

Solvent Analysis

The first difficulty encountered, therefore, in connection with the wax separating research was the lack of an adequate method for determining the wax content of oil-wax mixtures. It was desirable that a direct method be found or developed in which the wax content of an oil-wax mixture could be separated and its quality and quantity determined. It seemed likely that the solution of this problem lay in finding a selective solvent which could be applied at or near average room temperature rather than at the lower temperatures usually recommended.

A considerable number of solvents were tried with more or less success. Acetone gave the most encouraging results and a detailed study of its properties as a selective solvent for oil-wax mixtures was made. This study consisted of determning the solubility of various oil free paraffin waxes and wax-free oils in acetone at different temperatures. The effect of the intersolubility of oil, paraffin wax and acetone was then studied. Having compiled these data a method of analysis of oil-wax mixtures was worked out using acetone as a selective solvent. This method of testing has been found quite accurate and in general satisfactory for research work. The entire study and development of this method is now being published in the form of a technical paper.

Two Advantages

This method has two points of advantage. It gives a direct method of quantitatively and qualitatively analyzing a wax-oil mixture and permits the separation of the precipitated wax from the solution at 60 degrees F. or near normal room temperatures. The precipitation and filteration is carried out at 60 degrees F. by using an especially constructed water bath and copper tube type filters. Finely woven monel metal screen is used as the filtering medium.

With this method, very accurate results can be obtained. It has been standardized for use and found satisfactory for wax-oil mixtures containing 20 per cent or more of paraffin wax having as low a melting point as 110 degrees F. The method becomes more accurate as the percentage of wax or its melting point increases. The work done on this method indicates that with certain changes in procedure it can be so standardized as to be used on all kinds of normal oil-paraffin wax mixtures.

Melting Point Method

As previously stated the criterion most generally used in refining practice for judging the composition of oil-wax mixtures is the melting point of the mixture. This question of methods of determining the melting point of a paraffin wax was unlike the analysis method just mentioned. The commercial value of paraffin wax depends largely upon its melting point, hence tests for this characteristic of a wax sample have long been more or less perfected. It was only necessary to consider the various methods available and select the method or methods most applicable to the need of the investigation. A method recently standardized was found satisfactory for all wax mixtures having a melting point higher than 80 degrees F.

The various methods used in determining the melting point of commercial paraffin wax are familiar to refiners; the most used method being the Saybolt method. This method depends upon the marked difference in the rate at which the temperature falls when the

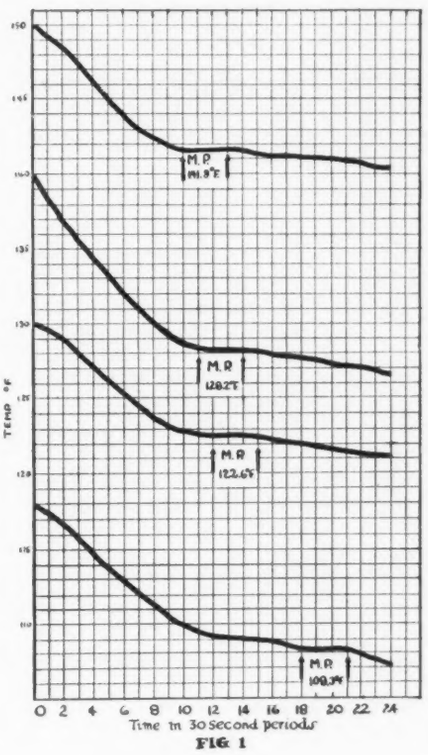

FIG 1

solidifying point of a homogeneous paraffin wax mixture is reached. Or in other words the method utilizes the latent heat of fusion of the wax sample.

The American Society for Testing Materials has comparatively recently developed a modification of this method. This modification is known as the A.S.T.M. paraffin melting point method. These two methods check to within ¼ degrees F. on commercial or nearly commercial paraffin wax. However, of these two methods, the A.S.T.M. method has the following advantages:

A—As small a sample as 20 c.c. can be used and satisfactory results obtained.

B—The arrangement of the apparatus is such that the rate of temperature decreases in the sample being tested is entirely independent of air currents or room temperature.

When this method is applied to samples of commercial paraffin wax it is remarkably accurate.

Accuracy Varies

Although the above mentioned testing methods are both satisfactory and accurate for homogenous wax mixtures they become less accurate as the percentage of oil increases. If a normal wax sample contains 10 per cent or more of oil these latent heat of fusion methods are not always reliable, as the decrease in the rate of temperature change at the solidificating point is not distinct.

Figure No. 1 shows the melting point of four waxes as determined by using the A.S.T.M. paraffin wax melting point apparatus and method. It will be noted that while the first three waxes gave definite melting points, sample No. 4 which contained 29 per cent oil and low melting point wax did not give a definite melting point, the 108 5 being estimated and placed as shown on the curve by taking the melting point of this mixture using the A. S.T.M. petrolatum melting point method.

Another method of determining melting points has recently been standardized by the A.S.T.M. for use particularly on non-crystalline mixtures such as petrolatum. In this method the wax or wax-oil mixture to be tested is melted and the bulb of a cold thermometer half immersed and quickly withdrawn, thus leaving a coating of wax like half a capsule on the bulb. The mixture on the bulb is allowed to age for at least 60 minutes at a temperature of 80 degrees F. or below. The melting point of the sample is then determined by gradually increasing the temperature in an air bath until a drop of mixture falls from the bulb of the thermometer.

This method has the advantage of requiring only a small amount of sample and of being applicable to all kinds of wax-oil mixtures.

For comparison a number of test runs were made on commercial quality paraffin waxes by both this and the A.S.T.M. paraffin wax melting point method. It was found that the A.S.T.M. petrolatum method gave results 1.5 degrees F. higher on the average than the paraffin wax method. In all work done on oil-wax mixtures the petrolatum method has been used in determining melting points.

Sweating Slack Wax

The refining of paraffin distillates to suitable lubricating oils requires that the paraffin content be removed. This is accomplished at present by the well known cold pressure method in which the oil-wax mixture is chilled until the wax content crystallizes and the wax crystals reported in a suitable filter press. The wax-oil mixture retained in the press is called slack wax. It contains the major portion of the wax formerly in the paraffin distillate. This mixture contains from 40 to 65 per cent commercial wax, the remainder being lubricating oil and low melting point paraffin. The refining of this mixture to finished paraffin wax is accomplished by a method of heat treatment called sweating.

The bureau has taken up, as the next step in its present investigation, the question of sweating. It is appreciated that sweating is not directly connected

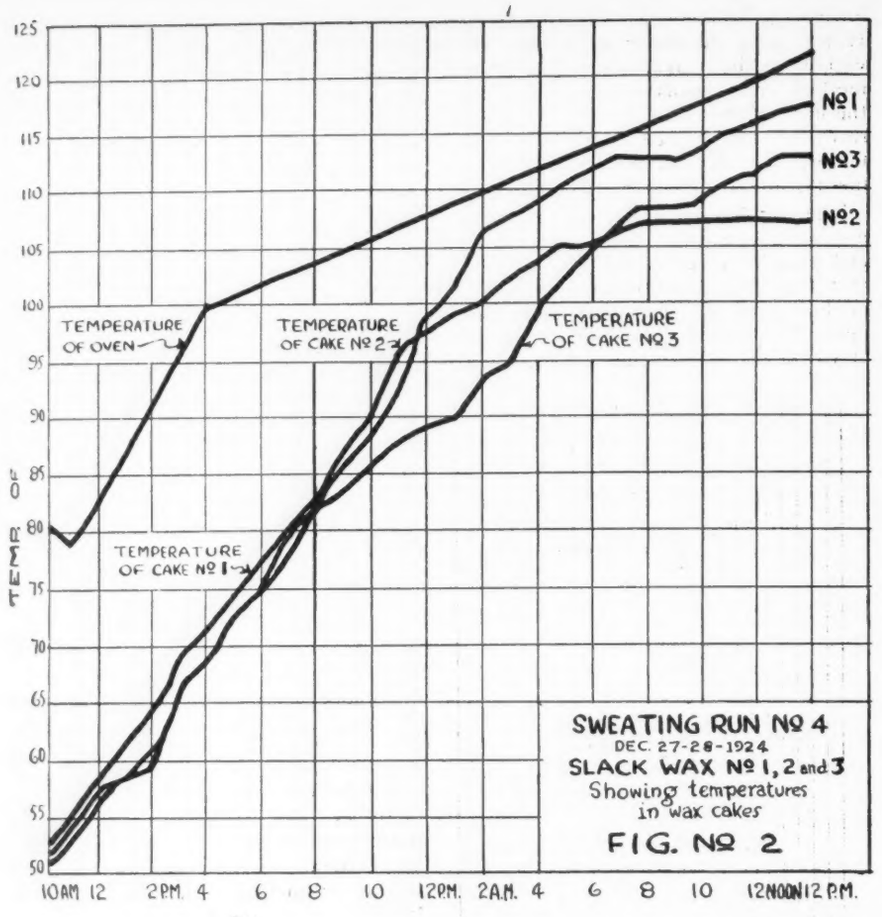

FIG. Nº 2

with the problem of separating paraffin wax from lubricating distillate. Indirectly, however, it is, in that the initial separation of the paraffin from the lubricating distillate is so expensive that the subsequent finishing of the crude slack wax to commercial paraffin is economically necessary. Another reason for making a study of this phase of the problem is that only a slight understanding of the characteristics of oil-wax mixtures seems to exist and any data giving a better understanding of wax or wax-oil mixtures will certainly be valuable in a study of the problem of separating paraffin from lubricating distillates.

This problem has been studied in three ways:

1—Laboratory scale sweating and general laboratory analysis of various slack waxes.

2—Semi-commercial sweatings carried out with much care as to details so the various characteristics of various paraffin wax-oil mixtures could be carefully noted.

3—By the co-operation of various refining companies who have allowed the bureau employes access to their plants to study plant methods and make various commercial sweating tests.

Preliminary Work

The first work done on the problem of sweating paraffin wax was to make a rather complete survey of all the commercial wax sweating installations easily accesible. It was soon found, however, that this line of endeavor was largely wasted effort. Not that the refiners were unwilling to co-operate with the bureau in this problem, but because there was such a wide variance in the methods of operation used by the refiners that no definite conclusions could be drawn.

In the first place the slack wax stock being sweated varied widely in character with each plant. That is its wax content and oil content was very different. Further the melting point of the characteristic paraffin content varied from 119 degrees F. in some slack waxes to 134.5 degrees F. in others. The oil content of the slack wax varied considerably also. For example, in one instance a slack wax was found which contained 62 per cent of 122.2 m.p. paraffin. The remainder of this slack wax was practically all relatively low cold test oil. Another slack wax contained only 38 per cent commercial paraffin but its melting point was 134.5 degrees F. The rest of this sample was not oil but almost entirely low melting point wax of a petrolatum like character.

The methods of sweating these waxes varied perhaps even more than did the slack wax stock. One refiner, for instance, used 110 hours to raise the sweating oven 24 degrees F. while another used six hours for the rise of 22 degrees F. and completed his sweating cycle in 32 to 38 hours.

Diversity Of Yield

A sample of the slack wax charging stock was then obtained from a number of the leading refineries of this country. Upon furnishing the sample each refiner furnished the bureau with a percentage yield figure representing his approximate yield of commercial wax obtained by commercial sweating of this sweating stock. The samples thus obtained were then analyzed for their wax content of similar melting point paraffin wax. This work showed an extreme diversity of wax yield. The efficiencies of the commercial wax sweating plants ranging from 23 to 85 per cent with a net average of approximately 50 per cent. Table No. 1 shows the list for the 13 refineries.

Briefly stated, this means that after the paraffin distillate has been prepared, chilled, pressed and sweated, an average of half of the good commercial paraffin wax is either lost entirely or at best recycled through the plant. This recycling is very disadvantageous. First, it is a very expensive operation; second, continued recycling destroys both paraffin wax and lubricating oil; third, it congests the processing machinery making necessary a considerable outlay for additional installation costs.

After this preliminary survey of refinery methods had been made and the laboratory investigation had shown such variance in yields with, in most cases, very similar charging stock, it was decided to attack the problem by using a semi-commercial sweating installation.

Sweating Oven Developed

The first sweating oven built did not prove satisfactory in several respects, chief of which was the difficulty of maintaining an even distribution of temperature. However, with the data and experience thus gained, a second sweating oven was built. It has proved satisfactory in every respect and may be briefly described as follows:

Its inside measurements are 2 feet by 3 feet 6 inches with a horizontal depth of 4 ft. 8 in. The walls are made of 6 in. of pressed cork board built on a wood frame. For protection, the outside of the box is wood covered. An air heating and circulating system is provided by having a small motor driven blower which takes air suction out of one side of the box passes the air over two coiled electric heaters and discharges it into the opposite side of the box. Both the intake and exhaust sides are arranged with pipe distributing headers so as to make even distribuiton of the air within the box. The blower has a capacity of 97 cu. ft. of air per minute and as the box contains only 32 cu. ft. of space, the air is circulated over the heaters three times per minute. The air passes over the electric heaters before entering the blower and therefore, is well mixed before entering the sweating oven.

The space inside the oven is divided vertically into three equal spaces and two shelves are arranged for carrying the sweating pans. Six pans 2 ft. by 1 ft by 5 in. can be placed in the oven at once and yet leave a 4 in. space between the sides of the pans for air circulation.

The heat is controlled by use of a mercury thermostat connected in the

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The highest standards and utmost care are exercised at every step in the building of these pumps.

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10 *and 5 gallon bowls. Patented interlocking valves. Double Cylinder. Oversize filter. Smooth, silent operation.* Fast. *Brilliant night illumination—special MILWAUKEE light refraction. Trade-attracting design and finish.*

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PUMPS : "LUB" OUTFITS : AIR COMPRESSORS : "KANT-LEEK" UNDERGROUND TANKS

Patent Pending

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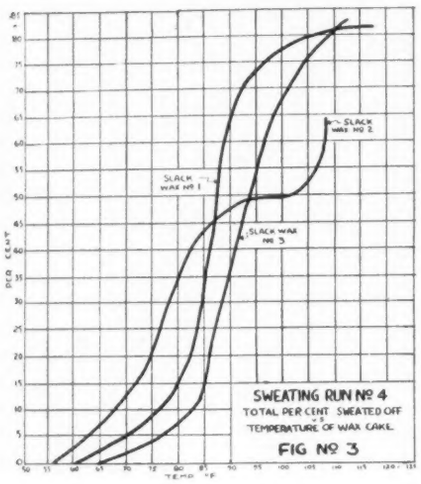
Canfield Oil Co. Cleveland

heating circuit. To further assist in proper heat distribution to all parts of the oven a gate valve is placed in each distributing header so that the entire heat distributing system can be controlled from outside the box.

Uniform Samples Used

When this arrangement had been completed and satisfactorily tested three samples of slack wax of 200 gallons each were secured from three Mid-Continent refineries. This slack wax was regular stock used in the sweaters in each refinery. The samples represented



slack wax manufactured from very different grades of Oklahoma crude oils and by different processes, consequently they were very different in their detail characteristics. Systematic sweating tests were carried on, using these samples as sweating stock. The three samples were sweated simultaneously in most cases thus making the investigation proceed much more rapidly than if each one had been sweated separately. Much work remains to be done using this sweating equipment. Tests to determine the following sweating characteristics have been made:

1. Tests to determine the extent of chilling profitable before starting to sweat.

2. Tests to determine the effect of rapid chilling as compared to slow chilling.

3. Tests to determine the rate of heat penetration of the wax cake in cases of various thickness of wax cake using the same rate of heat increase.

4. Tests to show the heat penetration using equal thickness of cake and various temperature head differences.

5. Tests to show the effect of thickness of cake on sweating efficiency.

Semi-Commercial Sweating

The method used in all these tests may be outlined as follows: A sample of the slack waxes as charged to the pans is taken and all usual physical tests made. In addition its wax content is determined using the solvent method recently worked out.

The sweating charge is then sweated, the specific data readings desired being taken during the run.

Cuts are regularly made at such intervals of time and temperature that each cut represents approximately 8 per cent or 10 per cent of the total charge being sweated. A record is kept of the amount of each cut and a sample saved. When the run is finished the samples are each analyzed and a set of curves prepared showing the amount and quality of paraffin wax sweated away in the various fractions. The total wax content as shown by the analysis of each cut is checked back against the total wax content of the original charging stock.

Figures No. 2, 3 and 4 show how the data thus obtained is finally prepared. Such sets of curves are prepared for each pan of wax in each sweating run. It will be observed that these charts show:

1. The temperature of the box;
2. The temperature of the wax cake;
3. The total per cent off the sweating pan plotted against the temperature of the box and against the temperature of the wax cake;
4. The per cent of paraffin wax lost plotted against the temperature of the wax cake being sweated.

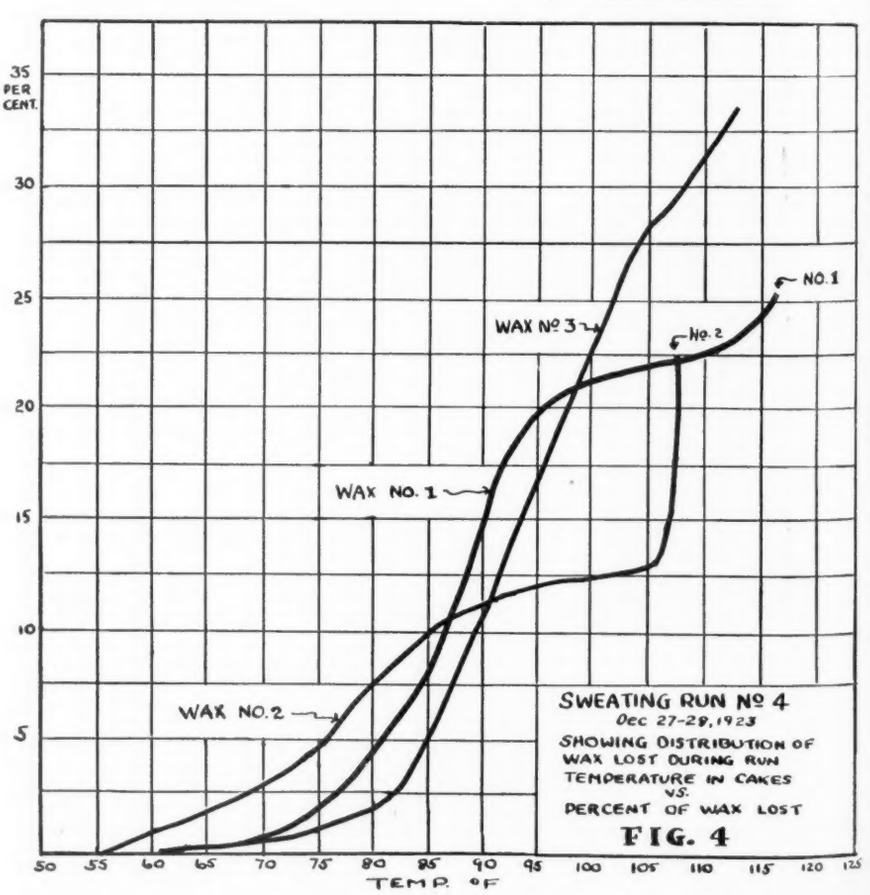
Losses During Runs

For example, in the case of wax No. 1 it will be noted from the figure that the total loss of wax during the entire run was 25 per cent. Since the total amount of paraffin present in slack wax No. 1 was only 43 per cent the loss is 25/43 or 58 per cent of all the wax in the original charge. The actual wax yield was about 18 per cent. Since the total wax content of this charge of slack wax was 43 per cent it would seem that the efficiency of this run would be 18/43 or 42 per cent. However, the characteristic wax of this particular slack wax, (the 43 per cent) is 124.5 degrees F. melting point, while the melting point of the 18 per cent is 131 degrees F.

In all experimental runs the sweating is carried far enough that it is known to be beyond the predetermined limit of melting point or oil and moisture content. Then when the samples have been analyzed it is a simple matter theoretically to add sufficient of the last fractions until the oil content or the melting point of the finished wax has reached the predetermined limit. The largest part of the wax lost was, of course, lost during the part of the run where most of the oil content came off. In this case during the time when the temperature of the center of the wax cake was from 80 degrees to 100 degrees F. At the sixteenth hour or when the oven temperature was 106 degrees F. it will be noted, first, practically all the oil is off; second, the curve of the temperature of the wax cake changes abruptly showing that a difference in its constituency and heat of fusion, has been reached. In this particular case when the allowable amount of wax was added to the 18 per cent yield it became 22 per cent or an actual efficiency of 51 per cent.

The work done in the refineries so far has consisted in taking general data during the regular plant runs. As nearly as was possible the same system of

(Continued on page 82)



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History of course will repeat itself. There will be a big demand for Distillate this fall and winter with every probability of a short supply.

Most burners are designed to burn Distillate. Frequent starting and stopping of fires at beginning of season requires a high-quality fuel—a zero cold test Distillate of low sulphur content, free from dirt and other foreign matter.

Marland Distillate meets these requirements and your trade will appreciate your supplying them with this high-quality fuel.

Communicate with our nearest sales offices for specifications and prices.

If you have never seen the Marland Plan of co-operative sales and advertising to aid dealers and jobbers, you have missed something you should be interested in. Write us about it.

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Marland Refining Company

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Division Sales Offices:
Texas City, Texas
208 So. La Salle Street, Chicago — 11 Broadway, New York
321 Finance Building, Kansas City — Hammond, Ind.

Other Offices:
707 National Bank of Commerce, Tulsa, Okla.
200 Bush Street, San Francisco, California
Insurance Building, Dallas, Texas
404 Patterson Building, Denver, Colorado

Ocean Terminal: Texas City, Texas
Cable—"Marlanoil"—New York

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always the same-always good

"20 years at hard labor!"

Every compressor that comes out of the Brunner Plant is immediately sentenced to "20 years at hard labor."

That shows you what the men, who build Brunners consider a fair estimate of Brunner longevity.

The fact is that because of the scrupulous care taken in their manufacture, Brunner compressors have set up some astonishing records for long trouble-free performance.

Because it's the best that can be built—a Brunner lasts long in service, starts quickly, runs quietly without vibration, works fast, costs little to maintain and is absolutely safe.

Don't be satisfied with anything less than a Brunner. Ask for the catalogue.

Brunner Manufacturing Co., Utica, N. Y.

Oldest and largest builders of Filling Station Air Compressors in the World

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BRUNNER AIR COMPRESSORS

With 20 exclusive features, a few of which are: Extra large intercooler, Ground Compact surfaces, Improved Belt Tightener, Removable Cylinders, Forked-type connecting rods—Minimizing vibration.

Every part built with special tools and gauges, insuring absolute interchangeability. Seamless Steel Tank—Insuring absolute safety.

Solderless Compression couplings. Brunner Patented No. 73 Safety Valve—Absolutely Air Tight.

1924 Model 939—Two Stage Compressor

Known Everywhere for their Quality

Established 1860 Incorporated 1907

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65 TO 30,000 GALLONS HORIZONTAL & VERTICAL

SHARPSVILLE BOILER WORKS CO.

SHARPSVILLE, PENNA.

MANUFACTURERS OF OIL EQUIPMENT

(Continued from page 78)

taking samples has been followed as used in the semi-commercial investigations.

Temperature Differences

A detailed study of the temperature difference in various parts of commercial sweating ovens has been made. As would be expected a considerable difference existed in various parts of the room. These differences often become as high as 18 degrees or 22 degrees F. Needless to say almost all paraffin in the vicinity of these overheated areas was regularly lost. In one instance a temperature of 124 degrees F. as registered by the plant thermometer, was being carried in the room. Inside of one pan the temperature was regularly at that time 136 degrees to 142 degrees F. The wax yield of this particular pan was of course very small.

In general local overheating is caused by the heating coil not being far enough from the sweating pans. It would pay every refiner to carry on a thorough test to determine the temperature differences in the wax sweating oven and thus find the point (or points) in the oven which is most truly representative of the average temperature of the room and then install recording thermometers so the operator at all times can have a visible chart and record showing him exactly what is going on in his various ovens.

Men who operate the wax sweating ovens are usually quite busy and quite often the temperatures change without their notice. Further the wood jacketed thermometers commonly used are slow to respond to changes in temperature and frequently, instead of being in the place most representative of the room temperature they are in a handy place near the door of the sweating room, consequently the temperature of the room is not definitely known.

It has often been contended by operators that room temperature differences made little difference in yields. Work done by the bureau shows that room temperature differences do considerably affect the yield of paraffin. It has also been said that extreme temperature differences between the wax cake being sweated and the oven temperature, do not materially affect the ultimate yield. This also has been tried out and found incorrect.

Water Coils Shorten Cycle

The many operators now using water coils to assist in sweating the wax cake, find that the use of water coils materially decreases the time required in a sweating cycle. However, it has been found that where hot water coils are used the temperature difference between the wax cake and the room temperature is often forgotten to a large extent with the result that entirely too high temperatures are regularly carried in the sweating room.

Figure No. 5, sweating No. 1 shows a sweating run not using water coils. This run took 30 hours sweating time and yielded only 37 per cent wax hav-

ing a. m. p. of 124 degrees. The average temperature head in this case was 13.9 degrees F. and varied from 7.5 degrees to 22.5 degrees F.

Figure No. 9, sweating No. 2 shows the temperature of the water circulating through a sweating wax cake and also the room temperature of the same oven. It will be noted that the temperature head varies from 6 to 12.5 degrees F. with an average of 9.5 degrees F. difference. This sweating run took 26 hours sweating time and gave a yield of 42 per cent finished wax, m.p. 126 degrees F. Practically the same quality of slack wax was charged to these ovens.

Thickness Of Sweating Cake

A series of tests were made in the semi-commercial sweating oven, to determine the probable thickness of cake best adapted to efficient sweating. In these tests the results, which have not all been entirely worked up, show a considerable variance which makes it rather difficult to draw definite conclusions. It would seem that the thickest cake that can be most quickly and efficiently sweated is about five inches and should not exceed 6 inches. In those instances where 6-inch cakes were sweated, a considerable amount of wax was sweated away before the entire cake was sufficiently free from oil. Very little difference could be noticed between the two, three and four-inch thicknesses. Of course, the thinner cakes sweated clear of oil more quickly than did the thicker cakes but the gain in cycling time would certainly not justify the loss of capacity.

In these semi-commercial tests water coils were not used in the wax cakes, only the heat from the air in the oven being available. The use of water coils, of course, would to some extent, increase the thickness of cake that could be used but since it is not a matter of heat penetration so much as a matter of the time factor of the percolation of the oil through and out of the wax cake, only a comparatively small increase in thickness of cake should be expected.

Summary Of Results

Summarized, the results thus far obtained are:

1—Super chilling the wax cake before starting to sweat does not increase the yield or quality of wax produced.

2—Extremely slow chilling allows or causes paraffin wax to segregate into patches or blocks throughout the slack wax cake.

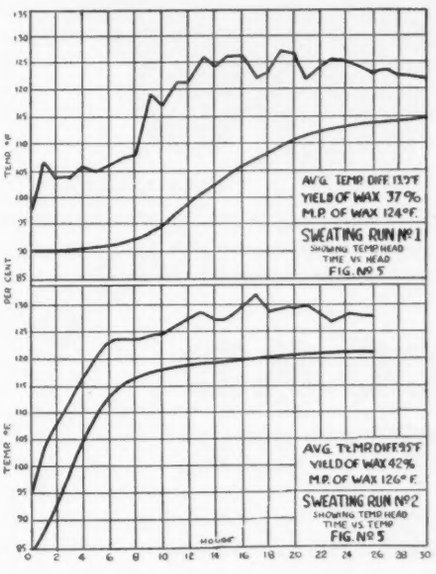
3—In chilling a wax cake before starting it to sweat all the material should be chilled to at least a complete semi-solid mass, however, additional chilling is a loss of time in cycling.

4—No advantage compatible to the cost is gained by extremely rapid chilling.

5—Local over heating, if of only a few (2 or 3) degrees difference, has an appreciable effect on a sweating wax cake.

6—Water coils arranged so heated water can circulate through the sweating wax cake, decreases the cycling time required for sweating.

As previously stated, the most important phases of this problem of separating wax from lubricating distillate, are those related more particularly to the preparation of the wax distillates



for removing the wax and the subsequent refining of the distillates after the wax has been removed.

Fields For Research

The following questions will serve to indicate some of the important fields open for investigation:

1.—It is not possible to remove a pressable wax distillate directly from crude oil without the necessity of redistilling the heavier portions of the wax distillate?

2.—Can this be accomplished without seriously affecting the yield or quality of bright stock or neutrals?

3.—Is the present cold pressing method the most satisfactory and inexpensive method possible for use in removing the paraffin wax from wax distillate?

4.—Is it necessary that refiners continue the present method of refining slack wax wherein either half of the wax is lost or is repeatedly recycled through the various expensive steps of the operation?

In brief, is it not possible to develop methods for processing lubricating oil distillates which would reduce the present enormous installation costs and expensive operating costs?

The vital character of this whole problem to the refiner and consumer of lubricating oils makes it of the utmost importance that the above questions receive careful study. The Bureau of Mines, having worked on this problem for nearly two years, appreciates its importance and hopes to be able to continue the investigations which are now so well under way.

Petroleum Mutual Fire Insurance Growing

ATLANTIC CITY, Sept. 26.—A conservative growth in the amount of insurance carried and annual premium income but a cutting down in fire losses and average rate, was reported to the National Petroleum Association by Houston Dunn, secretary of the National Petroleum Mutual Fire Insurance Co. Mr. Dunn was unable to attend because of illness but his report was read by Fred Slack, his associate.

The report shows a loss of $25.76 on a gasoline plant fire. When the first insurance was written on gasoline plants consuderable opposition was encountered within the company, Mr. Slack said. This one fire has been the only loss suffered on a considerable amount of insurance now covering this class of risks and the ratio of loss has been lower than for other risks generally regarded as less hazardous.

The report shows losses on jobber risks to have been the greatest since the company was organized in 1909. Mr. Dunn's report said in part:

"Prior to the organization of the National Mutual no Pennsylvania refiner paid a rate of less than 3½ per cent. The tendency was upward in rates and the refiner had no source of relief from the position in which he found himself. It is strange but illuminating to find, within one year after the Mutual commenced business the stock companies voluntarily commenced reduction in rates and the purpose was reasonably evident. If the growth of the National Petroleum Mutual could thus be restricted, compelling it to retire from business, the stock companies could by devious methods reinstate the rates to their previous exorbitant figure. Today no Pennsylvania refiner pays one-half of what he paid for his insurance prior to the organization of the National Petroleum Mutual and in a great many cases pays one-third or less.

"When the National Petroleum Mutual was first organized the stock insurance companies regarded it with antagonism and, the oil industry being commonly considered as extraordinarily hazardous, other mutual companies withheld their support of its activities. Today, however, the National Petroleum Mutual having so successfully realized all its predictions for it, over 20 strong fire insurance companies are grouped behind it so that the Petroleum Mutual can write large policies and pass over by re-insurance to those other companies such portion of the risk as the National Petroleum deems beyond its capacity conservatively to retain. On this plan of procedure the National Petroleum Mutual effects a saving over the entire amount of insurance it writes.

"We are going forward year by year—not by leaps and bounds, as is the case in some industries, but slowly and conservatively each year, showing a gain in premium income, amount of insurance

A size for every demand. Low center of Gravity and neat in appearance.

Write for prices and descriptive literature

The Perfect Tank

The Owosso Boiler & Welding Co. **Owosso, Michigan**

FUEL OIL — GAS OIL — KEROSENE — GASOLINE

A RECORD of Achievement

1 office in 1922; 5 today
3 desks in 1922; 17 today
5 sources of supply in 1922
81 today
10 customers in 1922, 490 today

~and the most gratifying part of it all is that our growth is the result not of unusual salesmanship but of unusual SERVICE. Try us and see for yourself~

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carried, and what is strange to say a gradual reduction of average rate.

"In 1909, we were practically carrying nothing, except the determination of the officers and directors of our company to put it across. Today we are carrying over $20,000,000 of insurance with an annual income of over $239,252. This is worth considering when you realize that by our competition average rates have been reduced from 2.94 in 1910 to 1.15 in 1924. Notwithstanding the average rate has steadily decreased from 2.94 in 1910 to 1.15 in 1924, the company has paid over $85,000 in dividends to its policyholders.

"We have been involved in 977 fires and paid over $1,000,000 in losses and that amount without question or dispute.

"The company now has $153,000 in assets of which $131,000 is in bonds that the insurance commissioners of the National Convention have never estimated at being worth less than carried by the company. Over all liabilities, the company has over $124,000 in surplus and reserves.

"We are reasonably proud of the accomplishment of your company, and are taking just a trifle of credit for our management.

"Since operation we have been involved in 977 fires classified as follows:

Refiners	273	$305,350.54
Jobbers	270	488,527.93
Tanks	131	143,551.49
Gasoline Plant	1	25.76
Miscellaneous	302	71,848.05
Total		$1,009,303.77

"And during the year 1924 the losses have been classified as follows:

Refiners	22	$ 9,805.54
Jobbers	33	22,634.93
Tanks	23	834.49
Gasoline Plant	1	25.76
Miscellaneous	188	18,076.05
Total		$51,376.77

"Through the Chamber of Commerce of the United States and other organizations that have been instituted for the suppression of the great fire loss throughout the United States, call upon call has been made to the various industries to use their best endeavors to stop and do their best toward cutting down the enormous fire loss throughout the country.

"We do not know whether to claim the credit or not but we have been workers for the past 15 years in the interest of cutting down fire losses in the petroleum industry.

"We have sent from time to time certain pamphlets and inspections to the oil industry regarding the safeguard of their property. We are gratified to say the oil industry as a whole has responded nobly and the refiners more particularly have during the year 1924. Out of the total loss sustained by this company of $51,376.77 the loss on the refineries was only a little over $9,000."

What The Government Does With Its Oil Royalties

By F. B. Tough
Chief Petroleum Engineer, Bureau Of Mines

Delivered Before Atlantic City Meeting Of National Petroleum Association

ATLANTIC CITY, Sept. 26

FEW people realize the monetary value of the oil and gas royalties the government receives or for which it is responsible as guardian of certain Indian tribes. From the passage of the federal leasing act of Feb. 25, 1920, to the end of the fiscal year. June 30, 1924, the public domain has produced 88,023,646 barrels of crude oil of which 16,933,193 barrels, valued at $25,396,200.84, accrued to the government as royalty. It will be observed that the government has received an over-riding royalty of more than 19 per cent on the gross production. During the same period naval petroleum reserves have produced 27,535,408 barrels of oil, of which 6,325,690 barrels or 23 per cent was navy royalty valued at $6,914,784. All of the navy's royalty from oil has been applied to miscellaneous receipts of the treasury or devoted to the construction of storage facilities or oil in storage. Not one barrel of oil nor cubic foot of gas from any naval reserve has been devoted directly or indirectly to current needs of the navy.

These royalties of 19 per cent and 23 per cent are well above the general run of commercial royalties and reflect the wisdom of the graduated royalty scale that applies on most of the government's oil leases. By this system the lessee pays not less than one-eighth or 12½ per cent on the gross production. This ratio prevails for the part of the production that averages not more than 20 barrels of oil per well per day throughout the calendar month. A progressively higher ratio is charged on the average production per well per day as production increases. If a lessee gets big wells by this system he is required to pay and should pay a higher royalty than if the wells had come in as small producers, or than he should be expected to pay when the wells have declined to small pumpers.

Indian Oil Lands

The government has been criticized by oil men for the unusually high bonuses that have been obtained by it for certain leases on Indian lands. Some of these bonuses have reached nearly $2,000,000 for drilling rights on 160 acres of land in addition to a royalty of not less than one-eighth on gross oil produced. Unquestionably such expenditures are a severe tax on the operators, but it should be remembered that these bonuses are set, not by the government but by the operators themselves in open competitive bidding. It is therefore logical to assume that the oil men think the properties are worth the price. As guardian of the Indians, the government has obtained more than $242,000,000 from their oil and gas properties. Some of this money is devoted to expenses connected with the transactions involved, but the Indians receive the bulk of it. The Indians who get large sums of money without any labor on their part usually spend it as foolishly as white men would under similar circumstances, therefore the government believes that it is wise to invest part of the oil and gas money for their benefit. This far-sighted policy has been carried out under protest from the Indians, ably seconded by white men who want to reap the profits of increased trade in the event that the Indians were permitted to spend all their money. In spite of this the government has insisted on some measure of thrift as a reserve for the "rainy day" when the oil is exhausted and the Indians must go hungry or go to work.

The oil and gas from naval reserves is used to provide a reserve supply of oil at naval bases, not for current needs of the navy.

Revenues from the public domain under the leasing law are split three ways by congressional enactment. Ten per cent of this income is deposited to miscellaneous receipts of the treasury; 52½ per cent to the revolving fund of the U. S. Reclamation service; and 37½ per cent to the state within which the oil properties are situated. The state money is only expendable by the state for public roads and public schools, or other public educational institutions. The leasing act is regarded by many people as one of the big pieces of constructive legislation passed in recent years. No part of it exhibits more real statesmanship than underlies the provision as to expenditures of the revenue derived thereunder.

Virtually all parts of the public domain which had rich soil and enough precipitation to make them suitable for agriculture without irrigation have long sinced passed into private ownership under the Homesead Act of 1862. Much of the remaining land has rich enough soil but meager rainfall and what little it gets is usually bunched in heavy downpours, sometimes cloudbursts. This sort of precipitation runs off, hardly wetting the surface of the ground. Such country is only fit for stockraising or mineral development and can not support even a moderately dense agricultural population. If its mineral resources are depleted and the proceeds of such resources have not been invested in other wealth-producing forms the country becomes exhausted like a worked-out farm which has not been adequately fertilized. Such conditions and circumstances impelled congress to return 90 per cent of the government's royalty to this land of sagebrush, sand and cactus. The 10 per cent retained by the government about covers the cost of administrating the act. Of this 90 per cent, 37½ per cent is available for the construction of public roads and public educational institutions. Since the days of the Roman republic, good roads have been recognized by enlightened people as essential for the commercial intercourse which unites the people of different communities and states more firmly through a stronger bond of common interest than can ever be achieved by statutes or agreements.

In the public educational institutions thus provided, the children of those who will develop and populate these areas can learn the English language and American ideals of citizenship.

The remaining 52½ per cent of the government's royalty is devoted to the revolving fund of the reclamation service.

Only by contact with the West can one fully appreciate the meaning of "Irrigation". To most of us in the east irrigation is only a word that calls to mind massive concrete dams, costly engineering work, and lakes of sky-blue water away off in a remote canyon with nobody to see them but the gate tender (who is paid to stay there) and the coyotes who have nowhere else to go. To the Westerner, irrigation means thriving agricultural communities, farms and towns and happy thrifty people.

The money expended for irrigation out of this revolving fund is returned to the fund in payments for water from the farms served by it; such money then becomes available for re-expenditure for the expansion of existing projects or construction of new ones and enables the Reclamation Service of the Interior Department to bring many thousand square miles of desolate country under the "High Line Ditch" that transforms the desert into thriving agricultural communities that are an increasing source of National wealth, strength and contentment that will endure long after the last barrel of oil has been pumped from the public domain.

HOUSTON, Sept. 26.—Hiram A. King, vice-president of the Sinclair Oil & Gas Co., and A. D. Sloan, vice-president of the Sinclair Texas Pipeline Co., Houston, have returned to headquarters after a trip to San Angelo and the Reagan county development area.

Farrell for Truck Tanks

That is all you need to remember, because Farrell builds Truck Tanks in all sizes, for all Trucks.

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1000 LB TEST VALVES

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Higher Efficiency

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Greater Satisfaction

TANKS of 300 gals., 350 gals., and 400 gals. capacity for 1 and 1½-ton trucks in stock for immediate shipment.

Specify "one like Wisconsin Rapids Oil Co. with Pipe Rail and Chain" or "with Hinged Panel Sides"

MULLINS BODY & TANK CO.
37th Ave. and Lapham St. **Milwaukee, Wis.**

Along The Boardwalk With N. P. A. Men

ATLANTIC CITY, Sept. 20.—The annual dinner of the National Petroleum Association was held last night at the Shelburne hotel, the scene of several such gatherings in recent years. Last night's affair was an informal gathering arranged by R. A. Wotowitch.

F. R. Goates, president of the Toledo Edison Co., a Cities Service subsidiary, was toastmaster and called upon Mr. Dow who eulogized Judge Chamberlin for his long, faithful service to the association. Judge Chamberlin responded with memories of his associations with the refiners. Col. Lyons also contributed reminiscenses.

Fred G. Clark played and sang and the little daughter of W. E. MacEwen entertained with several dances.

An innovation of the dinner was the presence of the wives of members and guests of the association. In previous years the dinners have been stag.

* * *

Only one charter member of the association was present: George P. Brockway. Herbert G. Eaton, the recording secretary, another charter member was forced by other business to be absent and his association duties were handled by E. W. Smiley, his business associate.

W. E. Wall, another charter member, wired his regrets to Judge Chamberlin. F. B. Fretter, still another of the original eight, was represented by W. E. MacEwen.

Samuel Messer, who is always active in association affairs, was kept away by other urgent business matters.

* * *

The election of a board of trustees marked the temporary passing of two men who have presided at all meetings of the last two years. They are Col. Lyons and Charles L. Suhr, who had been first vice-president and ruled over meeting when Col. Lyons was ill last year. Both are now off the board of trustees—at least for a year.

Col. Lyons was pleased at being relieved from the heavier association duties and announced he was going to take a look at the boardwalk with Mrs. Lyons for the first time during a convention since he became president.

* * *

W. H. Fehsenfeld and F. B. Tough hold opposing views on the oil burner question. Mr. Fehsenfeld held that with the price of crude oil below the cost of lifting the oil in pumping wells that the burners would aid to a great extent in bringing the price of oil up to the level of the cost.

Mr. Tough said the oil should not be brought to the surface when it had to be used as fuel, particularly domestic fuel, but should be preserved in the ground for some future time. In order to keep the oil in the ground, Mr. Tough said he favored a plan to prevent town lot drilling. Under it drilling rights would be controlled by the government

and wells permitted only on eight or ten-acre tracts, or any other size, whichever was the most economical.

He favored blocking out fields long before oil was needed, testing them and then letting them lie until the oil was required. He would have taxes only at a reasonable rate and not so high that the holder of the field would have to drill it up or go out of business.

* * *

Harry H. Willock, discussing the lack of knowledge about oils that mark some oil salesmen, told of a young man who tried to get some lubricating oil business from one of Mr. Willock's customers in Pittsburgh.

The customer was a manufacturing concern for which the chief engineer purchased the lubricants. After the high pressure young man had given his sales talk, the engineer inquired:

"What vis. has your oil?"

This answer ended the interview:

"We don't have any of that trick stuff in our oil."

* * *

E. E. Allen, formerly an active member, dropped into the Traymore to renew friendships with members from districts other than Warren. He and George P. Brockway boosted business at the boardwalk shops by engaging in a contest of buying gifts for their grandchildren At last reports Mr. Brockway was leading by a coral fountain pen.

* * *

L. C. Jamieson., grandson of the first president of the association, and C. M. Stoddart, both of Warren and doing a marketing business as the Viking Oil Co., have purchased the refinishing plant of the Amber Oil & Realty Co. at Stoneham, Pa. They intend to make petrolatum and motor oils which will be marketed by the Viking under the brand name "Conquest."

* * *

The convention was marked by the return of a familiar face—A. C. Woodman, or "Woodie" as the older members are wont to call him. He is now in business as the Refiners Petroleum Co., 17 Battery place, New York, and has with him several former associates in the old Union Petroleum Co.

* * *

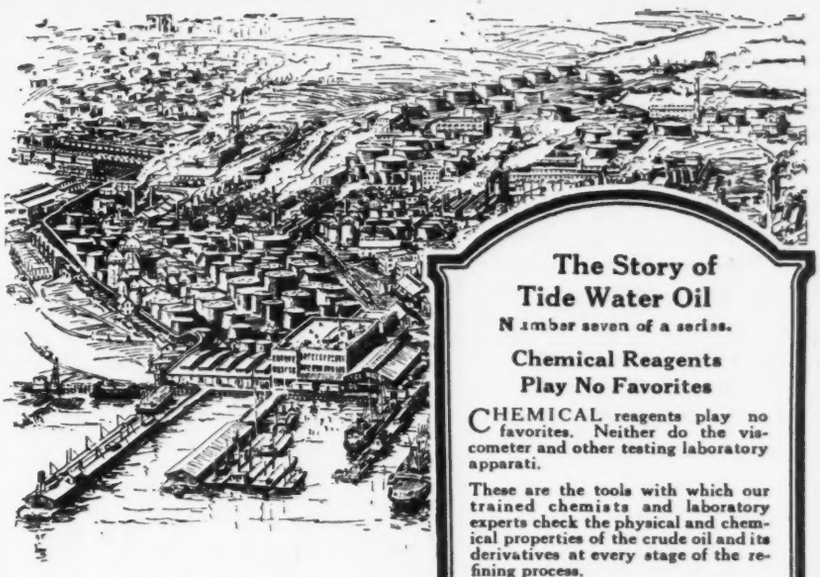
D. E. Buchanan, Chestnut & Smith Corp., and president of the Association of Natural Gasoline Manufacturers, looked in at the closing session. He was in Atlantic City on A. P. I. business. He extended greetings from the west to the eastern refiners.

* * *

Judge Chamberlin revealed the why of the jokes which have been published from time to time in the bulletins sent out from the Cleveland office. They were for the special delight of Harry C. Hoffman of the Tiona Petroleum Co.

* * *

Sentiment in favor of a closer relationship with the western refiners was again expressed. Similar sentiment has been expressed in the past, and confer-



The Tide Water Refinery of Bayonne, N.J.

Tide Water offers to Jobbers, Wholesalers and Marketers

One hundred and fifty petroleum products of unsurpassed quality, refined to exact specifications—*plus* specialized service.

The Story of Tide Water Oil

Number seven of a series.

Chemical Reagents Play No Favorites

CHEMICAL reagents play no favorites. Neither do the viscometer and other testing laboratory apparati.

These are the tools with which our trained chemists and laboratory experts check the physical and chemical properties of the crude oil and its derivatives at every stage of the refining process.

Painstaking laboratory testing is the one positive safeguard against the presence of impurities and injurious substances in the finished product. And at the same time, it is an absolute guarantee of quality and perfect uniformity.

As a result, Tide Water Products have won their name for unsurpassed excellence. This is as it should be, for it has been our business for nearly half a century to produce petroleum products of the highest known quality.

Three Points of Interest to Every Buyer of Petroleum Products.

Quality

For nearly half a century Tide Water has held steadfast to the fundamental policy of complete, thorough refining to exact specifications. This is one of the reasons for the world wide demand for our pure Pennsylvania Cylinder Stocks, recognized throughout the entire industry for their true worth.

Refining

Intensive experimental and research work is always under way to improve our refining methods. As a result we are constantly raising our standards of quality even when our existing standards are, in many cases, far in advance of the rest of the industry. All refining operations are controlled by a single, highly trained technical organization.

Service

Tide Water's specialized service to jobbers, wholesalers and marketers of petroleum products goes hand in hand with the absolute uniformity and unsurpassed quality of Tide Water Products. Specialized service means a keen interest in your marketing problems and helpful cooperation by our Sales and Refinery organizations at all times.

TIDE WATER OIL COMPANY

WHOLESALE DEPARTMENT

11 BROADWAY NEW YORK

ences held, but nothing toward consolidation of effort has ever come of them.

Mr. Dow is Washington counsel for the Western Petroleum Refiners Association as well as the N. P. A. and American Petroleum Institute. Co-ordinated effort may be obtained through his office.

Two of the leading proponents of amalgamation are L. P. Litzinger and W. E. MacEwen. Mr. Litzinger proposed the appointment of a committee for the purpose of formulating a plan for consolidation but the matter was finally dropped.

* * *

Only one general session a day was held by the association so the golf enthusiasts had a chance after the clouds cleared away on Thursday. Among the players were J. W. Fawcett, Ralph W. Welsh, Frank Berry, W. V. Newlins, Jr., Ralph P. Byles, Guy B. Hunter, Thomas J. Hilliard and G. G. Woodruff.

The first six named played "syndicate" at which Frank Berry won 12 of the 18 holes. Ralph Welsh claimed to have shot the course in les than par but his opponents insist that as a golf player he's a good oil salesman.

* * *

The Jersey mosquitoes or sand fleas took particular fancy to Guy Hunter, and took luncheon off his shins while he was on the links. The result was a pair of legs so badly swollen that the retiring treasurer of the association was forced to remain in bed one evening.

H. L. Doherty To Address N.P.M.A. At Cleveland Meeting

Staff Special

CHICAGO, Sept. 25.—Henry L. Doherty will address the National Petroleum Marketers' Association during the convention in Cleveland, Nov. 18, 19 and 20, it was announced at association headquarters Saturday morning. The subject of Mr. Doherty's address has not been made public, but President L. V. Nicholas of the association says he has his positive assurance that he will appear before the meeting.

In laying his plans for the Cleveland convention, Mr. Nicholas stated several weeks ago that he would include several important speakers on the program this time, which is somewhat of an innovation. For the last several years the N. P. M. A. conventions have been conducted on the "open forum" plan. Subjects only were listed on the program and everybody, who wanted to do so, joined in the discussion.

In the Cleveland gathering, the open forum plan will still be followed. Members and officials of the association have always contended that an exchange of ideas among the membership was worth more to them, severally, than was a great flow of oratory from any nationally known speaker. "Ideas rather than rhetoric" has been the purpose of the gatherings, they say.

But in-as-much as the Cleveland convention has not been thought about as a "family affair" of the N. P. M. A., but designed to be the biggest gathering of oil marketers ever held in any city, Mr. Nicholas has modified the old plan and will introduce a few real speakers who are oil men with something to say to the jobbing trade. Other names are expected in the next few weeks but thus far no speaker has been scheduled except Mr. Doherty.

Mr. Nicholas has said he did not care how few speakers there might be, so long as they had something worth while to say to the membership. It is considered likely that there will be no more than one speaker for each of the three days of the convention, leaving plenty of time for committee meetings, open forum discussions, and planning co-operative moves, which the association has fostered since it was organized and has made remarkable progress with recently.

Spaces Keep Moving

After the first grand rush for exhibition spaces at the convention, the call for booths slowed up a little. Before that first rush was over, however, more booths were rented than have ever been leased for any previous jobbers' meeting. No sales campaign has been conducted and exhibitors have continued to apply for space at the rate of two or three a week, so that now there are less than 20 spaces open. No active effort will be made to sell space, according to Miss Eva Arnstein who is in charge of the sale, because the association wants all voluntary applicants to be served if possible.

The most active campaign now in progress at association headquarters is to improve the attendance. The registration list at each national convention has grown steadily since the N. P. M. A. came into being, regardless of what part of the country the gathering was held in. Last fall's convention in Milwaukee broke all records for attendance and the St. Louis meeting the following spring attracted even a slightly larger crowd. Mr. Nicholas believes Cleveland will bring the figures up to a new high.

Cleveland's accessibility to eastern and southern jobbers is sure to bring a new element into the convention which has never taken active part in the N. P. M. A. affairs. In spite of the fact that N. P. M. A, is the largest jobbers' group ever organized, its members acknowledge that it is too middle western in its character, and for that reason they were enthusiastic to have the 1924 fall convention held in the east to give the eastern membership a chance to grow.

New Method Of Treating Alkali Sludge

By Dr. Alfred Oberle

CHICAGO, Sept. 26.—The two principal by-products obtained in the "acid-alkali" refining of petroleum and its by-products are "acid-sludge" and "alkali-sludge."

There are many procedures for the utilization of acid-sludge. Patents on processes using metal-filings, saw-dust, lime, calcareous material, saltpeter, sodium- or potassium-salts, superheated steam, etc., have been granted in large numbers dating back to the year 1876, or before.

The Rave process (using metal-filings) has been worked on a commercial scale in Belgium since 1887. The laboratories of the Nobel Brothers in Baku (Russia) are noteworthy for some pioneer work along these lines.

The utilization of the alkali-sludge is somewhat limited compared with acid-sludge. The more common procedures consist in acidulating the sludge and recovering naphthenic acids. By "salting" the sludge, corresponding soaps are produced which can be calcinated to yield sodium carbonate.

A process* which may not be generally known consists in the treatment of the alkali-sludge with a dilute aqueous solution of hydrofluoric acid.

The hydrofluoric acid may be conveniently prepared by the action of the free sulphuric acid contained in the acid-sludge on ordinary calcium fluoride.

The alkali-sludge, when treated with hydrofluoric acid will yield sodium fluoride and naphthenic acids. The sodium fluoride solution obtained is causticised and caustic alkali (as it is used in the acid-alkali refining process) is obtained.

The loss in calcium fluoride is from 8 to 10 per cent.

It is likely that the following reaction takes place:

$$CaF_2+H_2SO_4=CaSO_4+2HF$$

$$R—COONa+RONa+2HF=$$

$$2NaF+R—COOH+R—OH.$$

$$2NaF+Ca(OH)_2=2NaOH+CaF_2$$

This procedure is generally applicable where hydrocarbons are treated with alkaline solutions for the elimination of oxygen compounds.

*Bull. Soc. Chim. Ind. Mai-Juin 1924, pp. 44-45. Schmitz.

ST. JOSEPH, MO., Sept. 29.—The Commercial Petroleum Co. has just been formed here to handle lubricating oils. The company has installed storage tanks, and is in a position to cater to the wholesale jobbing trade. H. T. McGinness, formerly with the Sinclair Refining Co., and H. J. Jones, formerly with the Oklahoma Producers and Refiners Corp., organized the new company.

Service And Bulk Station Credits Most Difficult To Handle

By M. E. Kleespie
Credit Manager, Waite Phillips Co., Tulsa.

Delivered Before Refinery Credit Managers At St. Louis, Sept. 17.

I BELIEVE that the subject of tank and service station credits should be of vital interest to all refinery credit men, as refiners are coming more and more each year to the marketing of their own product through their own service & tank stations.

The extending of credits to tank and especially service station customers is a far different problem than the extending of credit to tank car customers. In the first place, the service station customer account is so small that it will not carry the expense of an investigation as will a tank car account, where the amount involved is perhaps several hundred times as large.

A service station credit man is called upon to pass upon the credits of men and women in all walks of life in every conceivable business, or you might say the population of the nation. Bootleggers, and all kinds of illegitimate business, clerks in the stores, unmarried men who have no responsibility, who if they lose their jobs, you lose your money.

You are asked to pass upon the credit of the business man, the higher class salaried man, the family man in moderate circumstances, who rents his home or apartment, the home owner, the better families. I want to say right here that my experience has taught me that things in any class are not always what you would expect or what they seem.

Poor Moral Risks

Under these circumstances what will we make or what shall be the basis upon which credit shall be extended? Any account whose average monthly balance is under $50. I consider purely a moral risk. The question now arises what is a good moral risk?

Is a man who is working as a clerk making from $125 to $175 a month with a family to support who does not own his house, who has to pay rent, who has bought his car on the payment plan as 95 per cent do, is he a good risk? Is the farmer who lives on a rented farm, has no banking credit, who has no surplus in live stock a good moral risk? Is the bootlegger who is constantly in danger of arrest a good risk? Obviously not. Is the small business man, the higher salaried man and so on up the line?

Again, how are we to tell who is and who is not a good risk morally or otherwise, mostly moral? On my service station credit applications, I ask the questions that I deem necessary to determine a man's honesty and earning capacity and these are the two chief factors I claim in the extension of service station credits.

STATION CREDITS

HERE is a paper in which jobbing companies and service station operators will be interested, inasmuch as it gives actual experiences of one credit manager with a string of stations in both town and rural districts. The address, given by M. E. Kleespie, credit manager for Waite Phillips Co., Tulsa, was given before refinery credit managers at their meeting at St. Louis, Sept. 16 to 19.

If a man is honest, has a fair salary, lives within his means, I consider him a fair moral risk. I said if a man is honest by that I mean is he honest with his fellow men and with himself, many a man is honest with his fellow man but not with himself.

By this I mean he will buy a car when he knows in his heart that he should not, that he can't afford it, yet for social reasons, or perhaps under pressure from his family he buys a car.

You are asked to extend him credit. What do you find? You find he has always paid his bills promptly but that was before he had an automobile. The question is, can he stand the added expense of running a car and still pay his bills?

One thing I have found is this, not a few times but often, as said before, your investigation reveals the fact that he always has paid his bills; you extend him credit, the first month's bill is paid, the second month's is not. You start an investigation and find that he is not paying anyone as he used to. What does this tell you? He never should have bought a car, he can't afford it. You discontinue his credit, perhaps lose a customer, and the money; these cases are the hardest I think we have to contend with.

Credit Associations Help

For the gathering of this information I use the credit men's associations wherever there is one. In some of the smaller towns there is none and I am compelled to use the banks, grocery and department stores, but I never use a personal reference if it can be avoided, and I want to say that never yet have I failed to get a reply to my queries.

However, I find, as much as I dislike to say it, that even some of the so-called credit associations hand out information that is not always reliable. I will also say that I never use a form letter of any kind, all my letters are originals, I believe that this is partly responsible for my success in making investigations.

I was asked to lay special emphasis on the extension of credit to farmers. Here is one hard problem to solve. What must be the financial status of a farmer before he is entitled to credit and how much credit is he entitled to? Is it necessary that a farmer own his own farm before he is a good risk? Must he be able to borrow money from the banks? If credit is extended how long shall we carry him?

Gambling With the Farmer

I believe by far the greatest part of the farmers are honest and will pay when they have anything to pay with. Sometimes I think that in the farmer's case you are not only crediting the farmer himself, but gambling with the elements as well. You are gambling that rain will fall at the right time, that there will be no hail, high winds and so forth at the wrong time.

I believe that you will be compelled to carry say 70 per cent of them from the first of April or May until they market their crops. It depends on the kind of crops whether wheat, corn, fruit, cotton etc. just how soon this will be.

One other class of tank wagon trade I wish to call your attention to and that is the cross roads merchant. It is a fact that it is getting harder and harder each year for him to exist as trade is gradually going more and more to the larger center of population, due to the use of the automobile and the good roads.

The reason for this is that the farmer goes to the largest centers of population because he has a better stock to select from.

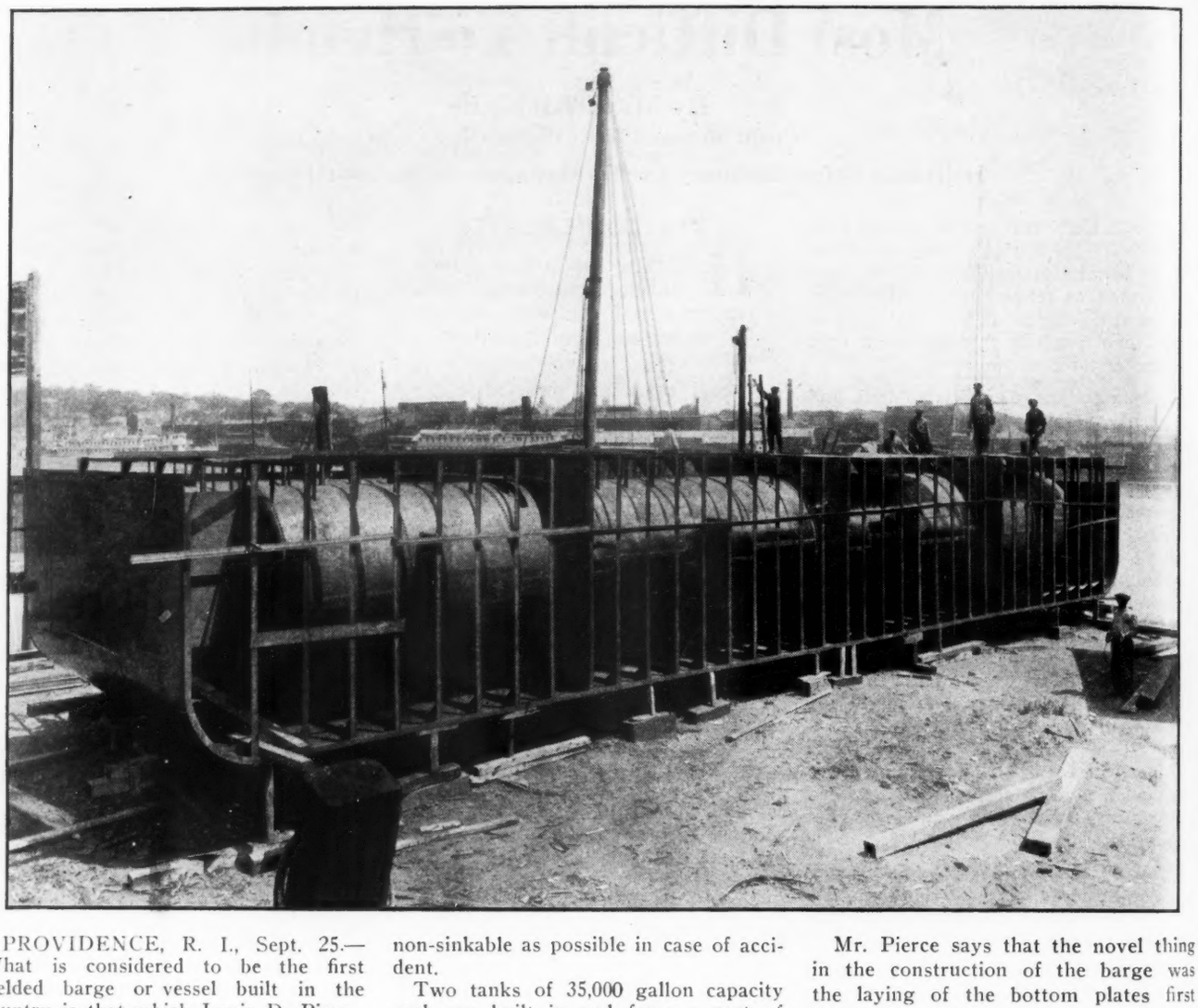
Keeps Down Losses

I make a most thorough investigation of this trade and nearly always get the money from the delivery when the second one is made. Most all garages are handled the same way.

You cannot set any hard and fast rule in the matter of how long an account shall be allowed to run before credit is discontinued. Circumstances

(Continued on bottom of next page)

Rhode Island Jobber Builds First Welded Barge To Carry Bulk Oils



PROVIDENCE, R. I., Sept. 25.—What is considered to be the first welded barge or vessel built in the country is that which Louis D. Pierce, president of the Pennsylvania Petroleum Co., Inc., of this city, has under construction. Anyone knowing the interest of Mr. Pierce in things nautical would look for him to work out something original for his business. The barge will be used to make bulk deliveries to his waterfront storage in Providence.

The barge, photograph of which appears on this page, is 80 feet long, 22 feet wide and 10½ feet deep. It has been so designed as to make it as near non-sinkable as possible in case of accident.

Two tanks of 35,000 gallon capacity each are built in and form a part of the keel construction of the barge. Around this are the ribs and three water-tight bulkheads giving four air-tight compartments. Fuel oil will be transported in the two center compartments, which will give the vessel, when completed, something over 100,000 gallon capacity. All plates are welded to the ribs and the water-tight compartments are welded to the tank. There will also be a rail around the top of the barge to protect any one from being washed overboard in rough weather.

Mr. Pierce says that the novel thing in the construction of the barge was the laying of the bottom plates first and welding them together before puting on the ribs, but according to his plans, this was the only way of doing the work.

That the new barge is causing comment in his territory is evidenced by the fact that several ship-builders and welding manufacturers have inspected the boat and government men have kept an eye on the progress made on it, according to Mr. Pierce. It will be launched about the middle of September when it will go into immediate servie.

(Continued from page 91)

alter cases, but if sufficient care is exercised in the granting of credit, I believe losses from bad debts can be kept well below 1 per cent.

A few words regarding the system I use in gathering and filing the information obtained. Let us start at the bottom, or with the first step. A stranger drives into your station has his car filled with gasoline and oil then says "charge it". What is your station attendant to do. He does not know him but perhaps he is a man who if shown the proper courtesy will develop into a very good customer or if you do not let him sign he will not come back.

So this is what I do, I allow the agent to make the first sale without authority, but he must turn in with the first sales slip, a credit application properly filled out. These applications are investigated and whether passed upon favorably or refused the agent is notified, on a white card if favorable, or on a red card if otherwise.

These cards are 3 x 5 and each station has a file, and in this file are filed the cards as received. As the original application card is passed the information thereon is transferred to a special form which we use in a "Rand visible file". If the applicant is passed upon unfavorably a red signal is placed on his card in this file and across the face of the original application card is written the word in red "Refused". If passed favorably no signal is used. At the end of the month each agent receives a schedule of the accounts at his station.

Form of Card Used

This is made up in four columns. 60 days and over, 30 days, current and total. This schedule is signalled with symbols as follows: Cut off—sell for cash only*. Another will be, cut off if not paid by the 15th#. Another: Was discontinued but reinstated later‡. And

last still another: Have notes to apply on this†.

When these schedules are completed I go through them and mark those who come under these various markings. In addition to the regular schedule each station is supplied with a complete list of refusals and cut-offs, advising each agent that any credit sales made to any thereon that some will be charged to him and deducted from his salary. This practically eliminates sales to those whom you have refused or cut off, and even if a sale is made it is the agent that loses, not your company.

After this work is completed, the Rand file is brought in accord. On the ledger sheet of each cut off account is placed a signal and the posting machine boys notify my office at once if it is necessary to make a posting to one of them.

They also notify me daily of all new accounts opened, and this is checked against the applications received. If an agent makes a first sale and does not send in the application card, the sale is charged direct to him. This may seem a lot of work but it keeps down your losses from bad debts to the minimum.

Relations Of Refiner And Jobber Discussed Before Credit Men

Staff Special

ST. LOUIS, Sept. 25.—Credit policies, particularly the credit relations of refiners and jobbers, were discussed at the dinner of refinery credit men from all parts of the United States here Sept. 19.

J. M. Woodruff, tank car sales manager at Chicago for the Sinclair Refining Co., told of credit work from the salesman's point of view. He said that all a salesman had by way of stock in trade really, was faith in himself, faith in his company and product, and enthusiasm. When any of these were taken away the salesman was reduced in effectiveness. Careless credit work, he said destroyed these. Mr. Woodruff commended the big improvement which has been made in handling credits.

J. B. Kelly, secretary, Corn Belt Oil Co., Bloomington, Ill., spoke from the jobber's point of view. He substituted for J. L. Murray, president of his company and president of the Illinois jobbers' association, who had been detained by pressing business (P.S. He's up in the north woods fishing and doesn't know yet about the big cut in gasoline.)

Mr. Kelly referred to the false position of the oil industry today as due to the talk of several years ago of a shortage in oil and a refusal to recognize a surplus of production of both crude and refined oils.

Big Stocks of Gasoline

"How false this belief of an impending shortage proved itself to be," he said, "it is only necessary to look over past events. It is conservatively estimated that we are to enter winter, when demand falls off, with a surplus of gasoline of 1¼ billion gallons. This is double our surplus as normally computed.

"This mistaken policy of ignoring the natural law of supply and demand gave ample opportunity for political propaganda, the result of which is ancient history. Dirty linen was washed in public and we, the jobbers, through everyday contact with the ultimate consumer, were sorely put to disadvantage to combat a situation we were not strong enough to overcome. This condition was one that extended the open hand to that tribe of business speculators—gamblers if you will—that promoted unsound marketing facilities and enticed into the business those who had no training in the petroleum industry, nor did they possess sufficient business acumen to withstand plausible tales driven home by men especially schooled in the art of separating the sucker from his money.

Sales Costs Increased

"From a policy of duplication in pumps and filling stations has sprung a condition which from a business standpoint is fundamentally unsound, because it is forcing the spreading of excessive sales costs in the distribution of the finished product, as well as engendering an embittered feeling between men and firms who should enjoy a keen legitimate business rivalry that would be reflected along service lines with a minimum reasonable allowance for interest on invested capital that would spell correct prices to the public.

"The inexperienced jobber and others governed by mistaken policies in the past, are brought face to face with the inevitable result. They are the mill stones that drag down the hard headed, right-thinking jobber. With a surplus of gasoline of such magnitude many refiners have contributed to the general chaotic condition through their entry into the service station end of the business, and all the while they have flooded the spot markets with cheap gasoline to the speculator in defiance of the moral obligation they have to play clean with that jobber who has been broad enough to pay them their just proportion of values through the medium of his marginal contract, which has been the life of some refiners.

"The trade acceptance has been the means in many instances of the unwary jobber getting himself into hot water. The ease with which he has been able to purchase supplies and cover them with his future promise to pay has, through crude accounting methods, I'll agree, permitted him to keep stocks rolling until the laxity of his system allowed his obligations to bunch. Here, then, the refiner finds himself with car loads of oil and gasoline on his customers' sidings and in transit, and accruing demurrage charges, reconsigning charges and diversion charges, which spel loss to him in large letters. Often times in an effort to protect his shipments he resorts to drastic means and incurs the ill will of a disgruntled jobber.

When Acceptance Returns

"Then, too, the jobber finds accompanying the invoices a trade acceptance for him to validate which on the face of it permits him to exercise his option as to point of payment. In many cases he finds the paper coming to him through a channel other than the one he designated, arriving at a bank other than the one where he had arranged to handle it.

"Too often we find the refiner extending credit with absolutely no knowledge of local conditions. How many refiners' credit departments today know whether a given area depends on agriculture or industry or part of each?

"Here is a good illustration. Two bulk plants in a purely agricultural district are 141 miles apart. At one the land is held in large acreage by men who farmed it through renters. This section in 1922 and 1923 showed the cash business was only 60 per cent of the total with the other 40 per cent carried for 90 to 120 days. The other location was farmed by thrifty German Amish farmers and showed 87 per cent cash in 1922, 99 and a fraction in 1923, continuing this until April of this year when the percentage of cash business commenced to fall to 70 per cent where it stands now. This indicates that even these thrifty people have reached the bottom of their cash resources.

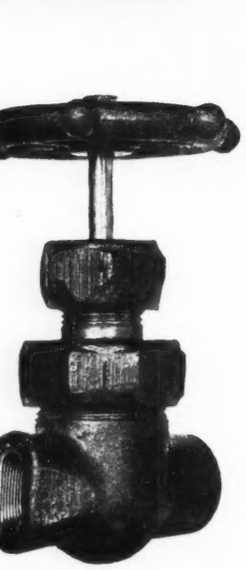
"Such cases as this can tend only to demoralize the business of the legitimate right-minded jobber, who was forced to combat price cutting brought about through the ability of the speculator to make capital out of the refiners' combined credit and sales policies which policies permitted such a wide spread that during 1923 many a jobber either broke his contract with the refiner or sustained a loss forced on him by competitors buying low price spot gasoline from the same refiner.

"If the refiner will demand, prior to extending credit, a financial statement such as is required by the securities department of the state of Illinois under the blue sky law, and be governed by it, he not only will protect his credits but he will be a big factor in compelling the small jobber to install proper accounting methods and thereby make himself a better business man and a better credit risk."

The last speaker was W. C. Platt of National Petroleum News who talked on the general credit situation and urged that the refinery credit men take full advantage of their present opportunity to carry on an education campaign which will not only educate the jobber but their own refiners to better business policies.

Mr. Bunn, Tidal Oil Co., was toastmaster. He explained it was his first effort but he got a good hand for his effort.

proving a surplus of strength



SMASHED cold by the powerful blows of a 5000-pound steam hammer —without developing cracks or any other defects. This most severe test proves that Vogt Drop Forged Steel Valves and Fittings have a surplus of strength — strength in excess of that required for any possible service.

Examine carefully the unretouched photographs of the tee, flange and union bonnet valve, and note particularly that even the threads did not fail.

Vogt

DROP FORGED STEEL VALVES AND FITTINGS

Their surplus strength is insurance against failure in most severe service and the resulting loss of property and even life.

Vogt Drop Forged Steel Valves have working pressures to 6000 pounds per square inch, and fittings have working pressures as high as 10,000 pounds. Those designed for high temperatures are used successfully to 1100 degrees F. Valves are steel trimmed or monel metal trimmed according to service requirements.

Globe, angle and check valve sizes are from ¼ to 2 inches, gate valves from 1 to 6 inches, fittings from ¼ to 4 inches and companion flange sizes from ¼ to 8 inches inclusive.

Detailed information regarding these and the many other items that make up the line of Vogt Drop Forged Steel Valves and Fittings is contained in the new catalog now on the press. Write for a copy.

Henry Vogt Machine Co.
INCORPORATED
LOUISVILLE, KENTUCKY

BRANCH OFFICES
NEW YORK, CHICAGO, PHILADELPHIA, DALLAS

MANUFACTURERS OF DROP FORGED STEEL VALVES AND FITTINGS, OIL REFINERY EQUIPMENT, WATER TUBE AND HORIZONTAL RETURN TUBULAR BOILERS, ICE MAKING AND REFRIGERATING MACHINERY

HERE AND THERE

J. W. Steels, petroleum engineer of the Bureau of Mines at Casper, Wyo., has been made deputy supervisor in charge of the Casper office, succeeding W. W. Scott, who resigned. Mr. Steele has been stationed in Casper for four years continuously except for part of a year when he was in the employ of the Producers & Refiners Corp.

* * *

J. C. Schoo, Jr., who has been assistant general sales manager of the Guarantee Liquid Measure Co. of Rochester, Pa., manufacturers of Fry gasoline pumps, will on Oct. 1 become division manager in Ohio, with headquarters at Cleveland.

* * *

W. B. Page, distributor at Arkport, N. Y. for the Kendall Refining Co., who was nominated for the office of sheriff on the Republican ticket, won out with a 500 plurality in a five-cornered fight with the Republican organization against him, according to William Lepsch.

* * *

E. S. Horn, for 44 years with the Pierce Oil Corp., the last 20 years of which he was manager of the lubricating oil department, has retired and is now living in Los Angeles, according to E. C. Ennis, of the Ennis Petroleum Products Co., Chicago.

* * *

Hiram A. King, vice-president of the Sinclair Oil & Gas Co., and A. D. Sloan, vice-president of the Sinclair Texas Pipeline Co., Houston, have returned to headquarters after a trip to San Angelo and the Reagan county development area.

* * *

J. L. Walsh, refinery sales manager of the Mutual Oil Co., Kansas City, Mo., recently left on his vacation which he will spend motoring to New York and other eastern points, accompanied by family.

* * *

George M. Bevier, geologist in the South Texas division of the Atlantic Oil Producing Co., spent his vacation at Marlin, Texas, following which he was due to make a short visit to the Dallas offices of the company.

* * *

V. L. Conaghan, manager of Sinclair company's offices in Portuguese S. W. Africa, has completed his work in that country and returned to his home in Wichita, Kan., according to R. Crandall, consulting engineer, New York.

* * *

David Donahue, consulting geologist, Houston, is back at his home after a business trip to Reagan county and elsewhere in the Edwards Plateau region around San Angelo.

Harley R. Hinton, president of the North Central Texas Oil Co., Inc., of New York City and Shreveport, has been inspecting the Poplar Dome and Chinook, Mont., structures with a view to investment. The company already has large holdings in the Cat Creek field.

* * *

S. E. Davis recently resigned as superintendent of the Interstate Gasoline Co.'s refinery at Wichita Falls, Tex., and is now head stillman at the refinery of the Invincible Oil Co. at Iowa Park, Tex.

* * *

A. J. Doremus, president of the General Oil Co., Inc., visited Cleveland last week and left on the D. & C. boat for Detroit and other middle western cities.

* * *

F. M. Hahm, formerly truck driver with the Independent Oil Co., Doland, S. D., has bought the business from E. J. Kirsch.

* * *

A seven-pound baby girl arrived at the home of Mr. and Mrs. Wilber F. McClure recently. Mr. McClure, better known as "Red", is clerk for Sin-

---

Borgolte Forms Marketing Company

KANSAS CITY, MO., Sept. 25.—The Atlas Petroleum Co., with offices in the Land Bank Bldg., this city, has just been organized by E. F. Borgolte, to market petroleum products. Mr. Borgolte was with the Acme Petroleum Co. of Chicago in an executive capacity for nearly six years and figured in the growth and development of that concern.

The Atlas is a closed corporation with a capital stock of $100,000. Mr. Borgolte has a wide acquaintance in the industry and expects to enter the business in a large way.

E. F. Borgotte

BARCO BRAND
CHICAGO
W. H. BARBER CO.
MINNEAPOLIS
PETROLEUM PRODUCTS

C-H-A-T-T-E-R!

If there's anything that will quickly win for you the Ford Car trade — it's an oil that effectively opposes the nerve-racking "chatter" so frequent in Fords.

And in this respect, there's no oil on the market so deadly to "chatter" as——

BARCO REALOL
A non-chatter oil for Ford Cars

It's distinctly a Ford oil — made for that purpose only—skillfully refined from Paraffine Base crude — backed by our years of study and research upon the characteristics and requirements of the Ford planetary transmission system — a dependable Ford Oil that's a business builder.

TRY IT OUT

Put *Barco Realol* to a test in actual service — one trial will convince you that here is a Ford oil of real superiority as a lubricant and a non-chatter agent.

We Sell To
OIL JOBBERS ONLY
All Grades Gasoline
Kerosene Distillates
In tank cars direct from refinery
Lubricating Oils
In tank cars or barrels
Penno and Barco
Motor Oils

OFFICIAL BOTTLER OF THE PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
Permit No. 49

100% PURE PENNSYLVANIA OIL

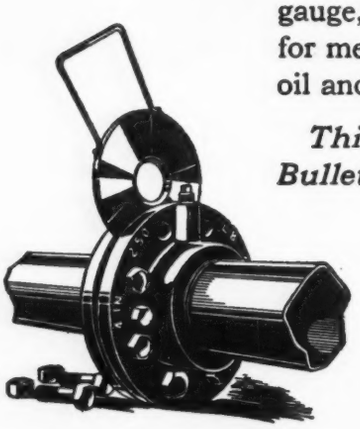
The highest grade oil in the world

W. H. Barber Co.
3650 S. Homan Avenue
CHICAGO, ILL.
1501 Franklin Avenue S. E.
Minneapolis, Minn.

METRIC METERS

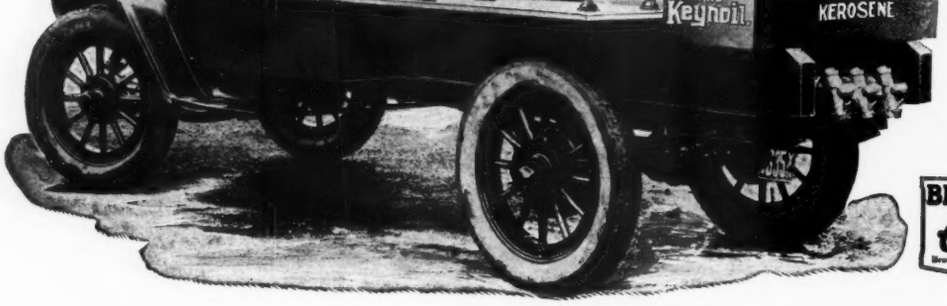
One type of meter which includes gauge, flange, disc and connections for measurement of gas, air, steam, oil and water.

Think this over and write for Bulletin No. 116.



METRIC METAL WORKS, ERIE, PA.
of **AMERICAN METER COMPANY INC.**

The White Eagle Oil & Refining Co. have a large number of Brown Certified truck tanks in their service.



Complete Line of Oil Equipment

Storage Tanks
Truck and Tractor Tanks
Underground Tanks
Viking and Meyers Pumps
H. S. H. Valves and Fittings
Curb Pumps
Oil Burner Tanks
Fuel Oil Equipment

Complete Blue Print Service

BROWN Certified TANK

Our Own Construction Crews

Two Large Plants Insure Prompt Shipment

BROWN SHEET IRON & STEEL COMPANY

1000 Berry Ave., ST. PAUL, MINN.

clair Refining Co. at Terre Haute, Ind. "Firpo's overcoat would not have made him a vest," is the way J. B. Malcolm, Sinclair's agent, refers to Mr. McClure's pride on this occasion.

* * *

R. Crandall, formerly with the foreign department of the Sinclair Oil Co., has opened an office at 17 Battery Place, New York, as consulting engineer. He is associated with a brother, Hector Crandall, of Crandall & Murta, of Tulsa.

* * *

Underwood Nazro, Houston, second vice president of the Gulf Production Co., made a trip to the east to put his son in school, after which he is spending a short time in New York City and Pittsburgh.

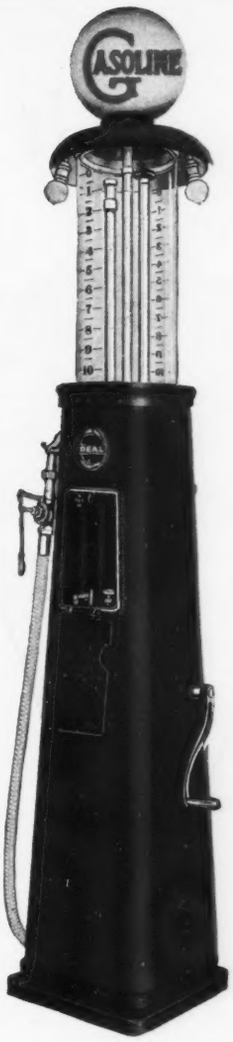
* * *

Ed Hopkins, consulting geologist with offices at New York, is on a busines trip to Venezuela for some of his clients.

Builds Organization For Humble Oil

HOUSTON, Sept. 20.—Wallace E. Pratt, chief geologist of the Humble Oil & Refining Co., was in the government service in the Philippines for a number of years before taking up oil country work. After being connected with The Texas Co., for a time, he entered the service of the Humble shortly before the Ranger development of central North Texas, being stationed at that time in Fort Worth. Upon being transferred again to the headquarters office in Houston, he began building up a geological organization that is considered second to none in the southwest. Mr. Pratt is back on the job again after his vacation spent in West Texas, part of the time around Alpine, in Brewster county.

Wallace E. Pratt



IDEAL
VISIBLE PUMPS

Hand-Operated
Air-Operated
Combination Air and Hand

5, 10 and 15 Gallon Types

These pumps represent and embody the most advanced and proven efficient ideas in design and constuction and are built and backed by the successors to the pump and tank department of Kupferle Bros. Mfg. Co., established in St. Louis in 1845—by far the oldest concern anywhere manufacturing gasoline and oil handling equipment.

For Bulletins and Prices write

KEW-IDEAL PUMP & MFG. CO.
5404 Easton Ave. **St. Louis, Mo.**

IDEAL Pumps are sold by their manufacturers direct to the Oil Trade at lowest prices.

PENNSYLVANIA-PETROLEUM-PRODUCTS-PURE
TRADE MARK CORECO ESTABLISHED 1885

CORECO
MOTOR OILS

Guaranteed 100% PURE PENNSYLVANIA OIL
Permit No. 38

Represent the best lubrication for ALL motor purposes.
Every drum of "CORECO" has the Pennsylvania Crude Oil Association Insignia.

Insist upon seeing this Insignia

Continental Refining Co., Oil City, Pa.

It Stops Them

VIC VIS

THIS masterpiece of the creators of the first commercial visible gasoline dispenser has marvelous *pulling power.*

Its installation, at any frequented highway station, invariably means a marked and immediate increase in both transient and local business.

At the same time it adds mightily to the popularity of the brand of gasoline it dispenses.

Tokheim Oil Tank & Pump Company

1602 Wabash Ave., Fort Wayne, Ind.

Oil Men I Have Known

HOUSTON, Sept. 25.—Harry R. Denton, of the land department of the Skelly Oil Co., Tulsa, who registers from Muskogee, Okla., tells a story of the early days in the oil industry of the Mid-Continent, the principals in which have long since passed away.

An old farmer in McIntosh county was about to lose his property because of the non-payment of a mortgage and he told Denton of the circumstances. The Gypsy Oil Co. was leasing in the territory and Denton felt that "Uncle Bill" Golden, when active as a leaser would be interested. It took $320 to clear the mortgage and Golden considered paying $1 an acre for the lease, which would more than cover the amount.

The farmer's wife kept holding out against signing necessary papers and, incidentally, made known a number of things that she needed, beginning with shoes and finally winding up with a shawl. Finally, Golden told Denton that he thought he had bought her everything she could think of and took Denton along to close the lease.

When they arrived at the farm house they were greeted by the nine dogs owned by the farmer, then they went into the house which was clean and neat as a pin.

After preliminaries, the farmer's wife called her husband's attention to what she had got "by being stubborn," he having paced the place in distress for fear that the lease might not be made out and the money made available for saving the home.

"Yes," the farmer replied, as he spat in the center of an old-fashioned turkey-red table cloth, "I've put up with your damn foolishness 30 years, and if it wasn't for losing a good home for my dogs I'd quit you now."

Geologists to Play Golf

HOUSTON, Sept 25.—A golf match for the James H. Gardner cup, in honor of the president of the American Association of Petroleum Geologists, will be one of the features of the informal gathering of members of the association at the International Petroleum Exposition in Tulsa. No formal program will be given, but a large attendance of the association membership is anticipated for the informal gathering

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NEW YORK, Sept. 22.—Announcements of the opening of the new ocean terminal at Wilmington, N. C., of the Galena-Signal Oil Co. of Texas, have been sent out by F. D. Gatchell, vice president. The opening will be held on Sept. 24 which will be followed by a reception on board the Galena Navigation Co.'s S. S. Galena.

Gasoline and Oil Filling Stations
and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.
524-544 Eggleston Ave. Cincinnati, Ohio

CRYSTAL OIL WORKS
OIL CITY, PA.

FOR over thirty years we have been supplying our trade with all products of petroleum, including the unexcelled lubricating oils for which Pennsylvania Crude is noted.

Yet throughout all our years of service we have kept pace with progress, not only as regards refining processes but in our methods of doing business.

We will welcome the opportunity of adding your name to our list of regular customers.

NIAGARA OIL
METERS

They automatically measure and register any oil product that is pumped or that flows by gravity in a pipe or a hose. Many in use by refineries, jobbers and retailers.

Write for prices, testimonials and illustrated catalog.

BUFFALO METER CO.
Est. 1892
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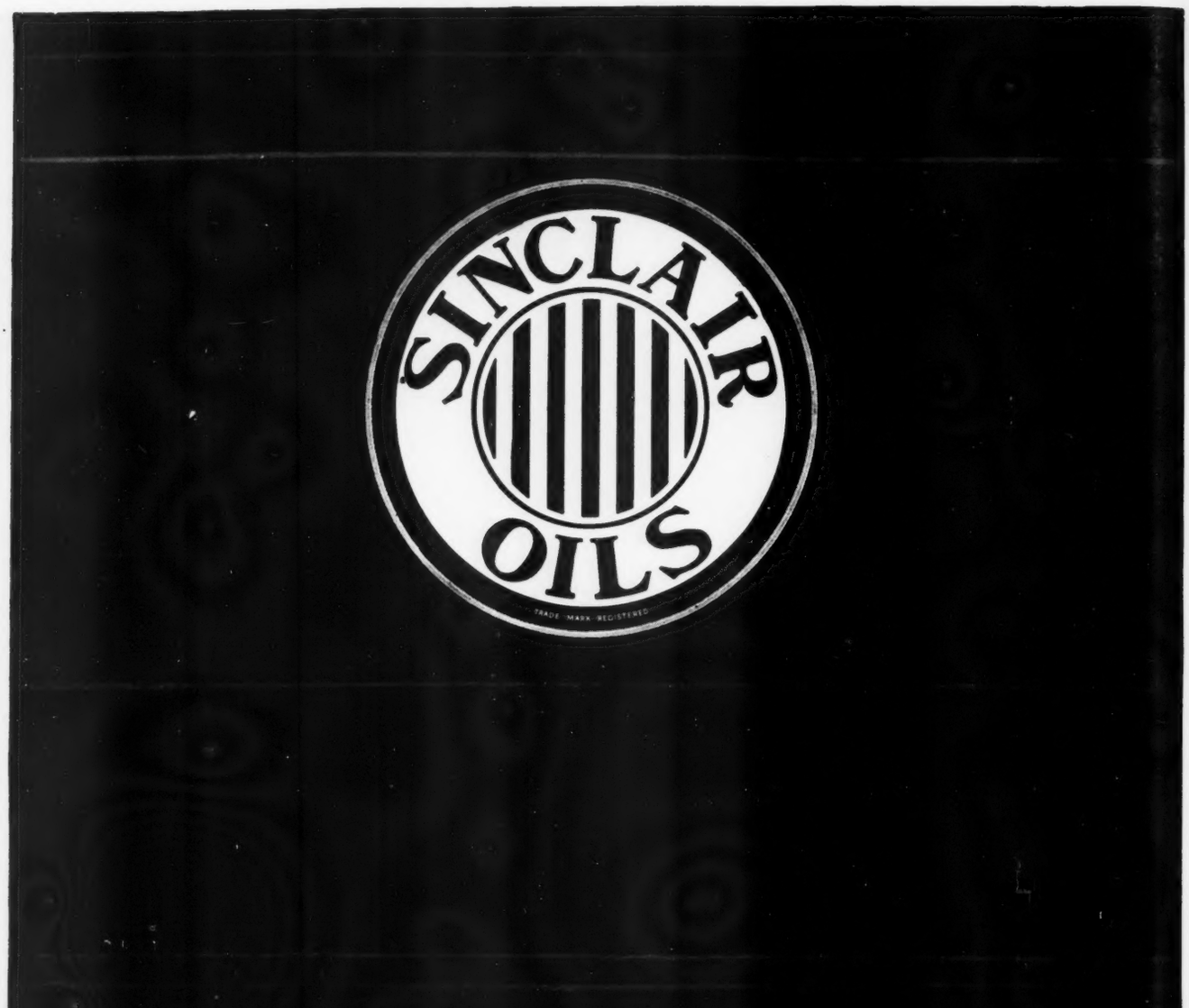

ONE of our responsibilities, represented by the Sinclair trademark, is to maintain a supply of crude oil which amply protects our sale of refined products. This is done through our affiliated companies, and gives our customers a feeling of security that their orders will be filled promptly.

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Bldg., 45 Nassau St. **Chicago:** 111 West Washington St.

Cable Address: "Lucent"

REFINERY-TANK WAGON MARKETS

Heavy Buying Of Bargain Gasoline Strengthens Group 3 Market

Staff Special

TULSA, Sept. 27

HEAVY buying of bargain gasoline during the past week has reduced the amount of motor fuel available for prompt shipment and caused a substantial strengthening of the market throughout the Mid-Continent. Prices are now nearly ½ cent per gallon above the low market reached early this week when the market was in an extremely disturbed condition as a result of crude and tank wagon reductions. Kerosene, gas oil, distillates and fuel oil have been strong throughout the week with fractional advances registered by kerosene.

The Prairie Oil & Gas Co. as usual did the unexpected this morning when it announced a new, and lower, schedule of crude prices. Predictions have been general for some time that the next change in crude prices would see a narrowing of the number of grades. It has been said by many that $1 per barrel for all grades of Mid-Continent crude would be a logical price in view of marketing conditions in the industry. The flat price basis or at least a two grade schedule was expected—but the Prairie crossed 'em up.

New Prices A Surprise

At the same time that the Prairie cut low gravity crudes, leaving high gravity gasoline bearing crude unchanged the Standard Oil Co. of Louisiana, announced a second advance in the price of Smackover heavy oil, which has been in demand for movement to Gulf ports as bunker fuel as well as for industrial and Ohio valleys.

Under its previous schedule the Prairie paid $1.25 per barrel for all oil over 33 gravity. The new schedule pays that price for oil over 36 gravity. A large part of the crude used by Independent refiners in Group 3 is 36 and over so that the change will have little or no effect on the price they must pay for their raw material.

The fact that crude prices were changed today apparently has had little or no effect on the refinery market. There may have been a slight tinge of uncertainty in the fuel oil market caused by the unexpected. But as far as gasoline was concerned the movement to increase prices gathered new headway during the morning instead of being retarded.

Early in the week some refiners who were panicky sold some U. S. Motor gasoline at 6¼ cents per gallon. As orders began to increase in volume at the bargain counter refiners pushed their quotations back up to 6½ and 6¾ cents per gallon. By Friday afternoon a number of refiners found that they had sold virtually all of the gasoline they could deliver during the remainder of the month. At least one refiner found that he had sold within 40 cars of his prospective production for October as well. The result of this condition was that quotations were withdrawn and refiners pegged their prices ¼ cent higher.

This morning the movement to raise prices was gaining headway. Brokers who had sold ahead in anticipation of lower prices were busy covering their requirements to avoid losses. It is known that at least one broker was forced to buy gasoline today at the same price he had sold the goods. A careful check of the market revealed only one refiner who had not advanced his price on U. S. Motor to the trade to 7 cents per gallon.

While the abrupt change in the gasoline market came as a surprise and appears to be contrary to what might be expected it must be remembered that stocks of gasoline in the Mid-Continent were reduced to a low ebb in the tremendously active August market and that many refiners are operating on a hand to mouth basis. One favorable factor in the market is the fact that Cosden & Co. has been able to work its gasoline inventories down to a fairly satisfactory level and that the company is following the market from day to day, having apparently abandoned its former position of leadership in making prices low enough to get business every day. Cosden was one of the first companies to raise its price on U. S. Motor to 7 cents this week.

High Gravity Goods Strong

Interest has been centered largely in the performance of U. S. Motor gasoline as usual but there has been increased activity in high gravity gasolines as well. Jobbers in the northern states particularly are buying 60-62 and 64-66 gasoline for their premium trade. Stocks of premium gasoline are at a low ebb and refiners are demanding around 8½ cents on 60-62 and 9¼ cents for 64-66, 375 end point.

Demand for 56-58 and 58-60, 450 end point goods is subsiding as the weather becomes cooler. Many refiners have eliminated their cuts of these products and are specializing on 58-60, 375 end point gasoline.

The season for renewal of marginal contracts for another year is rolling around. Several contracts have expired within the past two weeks and others will be expiring in greater numbers after Oct. 1.

The next few weeks will probably see a marked change in contract relationships between refiner and jobber as was forecast by this publication several months ago. It is a significant fact that Cosden & Co., the largest Independent refiner in the Mid-Continent who has distributed a major part of his gasoline on marginal contracts for the past two years, has not renewed a single contract for 1925. The company has not announced what its policy will be but it is not considered probable that it will go into next year without contracts of any sort, keeping strictly to the spot market. It has been predicted in some quarters that the company will adopt a policy of selling on "market, date of shipment" contracts.

Both Parties Disgusted

Apparently both jobber and refiner are disgusted with marginal contracts. During the past week L. V. Nicholas, president of the National Petroleum Marketers Association, has directed a letter to his members urging them not to make marginal contracts for 1925 based on the tank wagon schedules of any of the Standard companies. Mr.

Index number of Bureau of Labor Statistics of U. S. Dept. of Labor on Oil Products, as compared with Wholesale Prices on Other Commodities.

	Aug. 1923	July 1924	Aug. 1924
Gasoline	**118.8**	**115.9**	**111.7**
Crude, Okla.	**155.2**	**165.9**	**147.2**
Crude, Penn.	**112.2**	**124.5**	**112.2**
Kerosene	**144.8**	**156.4**	**156.4**
Farm Products	137.8	140.9	145.3
Foods	140.7	138.7	144.0
Clothing	192.6	187.5	189.9
Fuel & Lighting	178.2	173.2	169.7
Metal Products	144.6	130.4	130.4
Bldg. Materials	185.9	168.8	169.2
Chem's & Drugs	127.4	126.5	130.1
House Furnish's	182.7	170.8	171.0
Miscellaneous	120.2	112.4	115.0
All Commodities	150.1	147.0	149.7

Note—Index number for gasoline is tank wagon price in New York; for crude price in barrels at well. All index numbers are based on average price for 1913 as 100.

"Be Square Products"

BARNSDALL

Engaged in Every Branch of the Petroleum Industry

The BARNSDALL REFINING COMPANY is one of the subsidiaries of the BARNSDALL CORPORATION, which has assets of over Forty Million ($40,000,000) Dollars;

With twenty-seven thousand domestic gas customers in twenty-eight municipalities in the states of New York and Pennsylvania;

With a complete mining organization engaged in mining gold, silver, copper, lead, zinc and other metals and producing the only pure tripoli in the world out of which is manufactured useful household articles superior in quality to those now being supplied to the market because tripoli is Nature's product.

With approximately 300,000 acres of oil and gas leases extending from Pennsylvania to California—with only ninety thousand acres operated and developed, upon which there are twenty-six hundred oil wells producing more than seven thousand barrels of crude oil daily and six hundred twenty-five gas wells, and six hundred miles of pipe lines;

With a fully equipped, complete, modern refinery located at Barnsdall, Oklahoma, in the heart of the corporation's mid-continent production, with over one hundred miles of pipe line transporting the crude oil to the refinery, where it is manufactured into high grade, uniform quality products, including Lubricating Oils, Cylinder Stocks and Wax;

With twelve absorption gasoline plants to extract the natural gasoline from the casing head gas of the producing oil wells and a fleet of steel tank cars for shipping and transporting all of its refined oils to market;

With an export department constantly preparing shipments of Barnsdall Products for export to European countries and South America, through the ports of New Orleans and Mobile;

With a large warehouse and storage plant in Kansas City, Mo., with distributing stations well located in the agricultural country of Missouri and Kansas;

Our Own Crude **Our Own Refinery**
Our Own Pipe Lines **Our Own Tank Cars**

"A Dependable Source Supply"

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Refinery Markets On Light Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

GASOLINE AND NAPTHA

PENNSYLVANIA	Prices Sept. 29	Prices Sept. 22	Prices Sept. 15
52-54 Naptha	-11	11 -11⅜	11 -11⅜
54-56 Naptha	11 -11¼	11⅜-11¾	11⅜-11¾
58-60 Gasoline	11 -11½	11⅜-11¾	11⅜-12
60-62 Straight-run gasoline	12 -12½	12¾-13	12⅜-13⅜
62-64 Straight-run gasoline	13 -13½	13½-14	13½-14
64-66 Straight-run gasoline	14 -14½	14½-15	14 -14⅝
68-70 Straight-run gasoline	16½-17	16¾-17	16¾-17
68-70 Blend, 437 E. P.	10½ -11	10½-11	11 -11⅜
64-66 Blend, 437 E. P.	10½ -11	10½-11	11 -11⅜
60-62 Blend, 437 E. P.	10½ -11	10½-11	11 -11⅜
68-70 Blend, 420 E. P.	-11⅝	-11½	11¾-12
68-70 Blend, 400 E. P.	-12¼	-12¾	-13
OKLAHOMA			
48-50 450 E. P. naptha	6¼- 6⅝	6¼- 6⅝	7 - 7¼
50-52 450 E. P. naptha	6¼- 6⅝	6¼- 6¾	7 - 7¼
56-58 450 E. P. gasoline	6¼- 6½	6¼- 6¾	7⅜- 7⅝
58-60 450 E. P. gasoline	-	6½- 6¾	7¼- 7½
58-60 U.S.Motor437 E.P.131i.b.p.	6⅝- 6⅞	6⅝- 6⅞	7⅜- 7⅝
60-62 400 E. P. gasoline	8¼- 8⅝	8¼- 8½	8¾- 9
64-66 375 E. P. gasoline	9 - 9¼	9 - 9¼	9¼- 9½
68-70 350 E. P. gasoline	10 -10¼	10 -10¼	10¼-10½
NORTH TEXAS			
48-52 450 E. P. naptha	6⅛- 6⅜	6¼- 6½	7 - 7¼
56-58 450 E. P. gasoline	6⅛- 6⅜	6¼- 6½	7 - 7¼
58-60 450 E. P. gasoline	6⅜- 6⅝	6½- 6¾	7¾- 7¾
58-60 U. S. Motor gasoline	6⅝ 6⅞	6⅝ 6⅞	7¼- 7½
60-62 400 E. P. gasoline	8¼- 8½	8¼ 8½	8¾- 9
64-66 390 E. P. gasoline	8½- 9	8¾- 9	9 - 9¼
64-66 375 E. P. gasoline	8¾- 9¼	9 - 9¼	9¼- 9½
68-70 350 E. P. gasoline	10 -10¼	10 -10¼	10¼-10½
NORTH LOUISIANA			
58-60 450 E. P. gasoline	7 - 7¼	7¼- 7½	7¾- 8
58-60 437 Navy Gasoline	7¼- 7½	7½- 7¾	8 - 8¼
64-66 390-400 E. P. Gasoline	8¾- 9	9 - 9¼	9½-10
ARKANSAS			
58-60 450 E. P. gasoline	7 - 7¼	7½- 7¾	8 - 8¼
58-60 Navy gasoline	7¼- 7½	7¾- 8	8¼- 8½
64-66 375 E. P. gasoline	9 - 9¼	9 - 9¼	9½- 9¾

NATURAL GASOLINE

OKLAHOMA	Prices Sept. 29	Prices Sept. 22	Prices Sept. 15
Grade A, 73-78 375 E.P.,90% Rec.	8½- 8¾	8¾- 8¾	- 8¾
Grade B, 76-82 375 E.P.,85% Rec.	8¼- 8½	8½- 8¾	8½- 8¾
Grade C, 80-88 350 E.P.,78% Rec.	8¼- 8½	8½- 8¾	8½- 8¾
Grade D, 88-92 350 E. P.	8¼- 8½	8½- 8¾	8½- 8¾

(Motor Natural Gasoline—Blends)

OKLAHOMA	Prices Sept. 29	Prices Sept. 22	Prices Sept. 15
Grade 1, 58-62 437 E.P.,91% Rec.	7 - 7¼	6¾ 7	7¼- 7½
Grade 2, 58-62 450 E.P.,90% Rec.	7 - 7¼	6¾ 7	7¼- 7½
Grade 3, 64-66 440 E.P.,88% Rec.	7 - 7¼	7 - 7¼	7½- 7¾
Grade 4, 66-70 435 E.P.,85% Rec.	7 - 7¼	7 - 7¼	7½- 7¾
NORTH TEXAS			
Grade A, 72-78 90% Rec.*	8½- 8¾	8½- 8¾	- 8¾
Grade B, 76-82 85% Rec.*	8¼- 8½	8½- 8¾	8½- 8¾
Grade C, 80-88 78% Rec.	8¼- 8½	8½- 8¾	8½- 8¾

*F. O. B. Breckinridge.

(Motor Natural Gasoline—Blends)

Grade 1, 58-62 437 E. P.	7 - 7¼	6¾- 7	7¾- 8
Grade 2, 58-62 450 E. P.	-	6¾- 7	7¾- 8

BURNING OILS

PENNSYLVANIA			
45 Water White	7½- 7¾	7½- 7¾	7½- 7¾
46 Water White	8 - 8¼	8 - 8¼	8 - 8¼
47 Water White	8¾- 9	8¾- 9	8½- 9
300 Burning Oil	7½- 7¾	7¼- 7½	7¼- 7¾
OKLAHOMA			
40-42 Prime White Dist.	4½- 4¾	4¾- 4⅝	4¾- 4⅝
41-43 Water White	4¾- 5	4⅝ 4⅞	4⅝- 4⅞
42-44 Water White	5 - 5¼	4⅞- 5⅛	4⅞- 5
NORTH TEXAS			
40-42 Prime White Distillate	4⅜- 4⅝	4⅜- 4⅝	4⅜- 4⅝
41-43 Water White Kerosene	4⅝- 4⅞	4⅝- 4⅞	4⅝- 4¾
42-44 Water White Kerosene	4⅞- 5⅛	4⅞- 5⅛	4¾- 5
38-40 Straw	-	-	-
NORTH LOUISIANA			
41-43 Water White Kerosene	- 5	4¾- 5	4¾- 5
ARKANSAS			
41-43 Water White Kerosene	- 5	4¾- 5	4¾- 5
42-44 Water White Kerosene	- 5¼	5 - 5¼	5 - 5¼

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

Nicholas has not announced what sort of a contract he proposes to supplement the former type of agreement but announces that he will send one out shortly.

Thus far the market date of shipment contract apppears to be gaining the most popularity. A number of refiners are busy offering to sell over the 1925 on the basis of quotations appearing in Platt's Oilgram or National Petroleum News. Some are suggesting an average of prices appearing in several publications.

The position of the kerosene market has not changed materially during the past week. Stocks of burning oils are low throughout the field and inquiries have been active. Buyers are being forced to advance their ideas of price and accept deferred shipments. Sinclair Refining Co. has bought additional quantities during the week for domestic shipment and is understood to have been forced to pay more than 4¾ cents for some 41-43 water white. The 42-44 water white grade is even more scarce than 41-43 and is selling at a minimum of 5 cents per gallon.

Distillate demand has been steady during the week but refiners have not demanded higher prices. Trading has been free at an average price of 3¾ on 38-40 and 3½ on 36-38 light straw. Gas oil has been rather featureless. Some of the large buyers have been holding out of the market in the expectation of lower prices in view of the weak position of the crude market. But so far they have not been able to pick up any material below 2⅞ cents per gallon and a majority of the refiners are holding for 3 cents. Earlier in the fall gas oil prices might have been lower had it not been for the good buying of exporters. At present there is no additional movement to overseas purchasers but the winter season is at hand when the gas companies will be forced to keep in the market more or less steadily.

Cylinder Stocks Firm

Steam refined cylinder stocks are in better demand and prices are firmly held at current levels although there have been no notable advances. Industrial users of western 600 steam refined oils are inquiring steadily and there have been a number of inquiries from exporters.

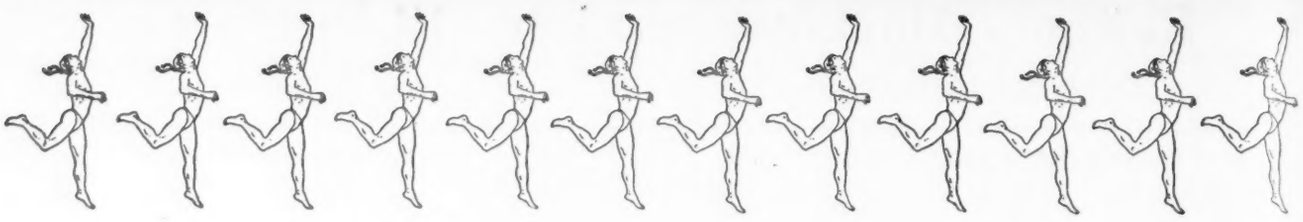
Buyers of wax are seeking additional quantities for October delivery at prices slightly under those prevailing a week ago. Offers are being made at 5⅛ to 5¼ cents per pound. The available supply for October is not large and refiners are not particularly anxious to sell far in advance in view of the active export market.

Fuel oil had an air of uncertainty this morning following the reduction in low gravity crude prices announced by the Prairie. This was partially offset by the action of the Standard Oil Co. of Louisiana in advancing its prices to 85 cents per barrel at the wells for heavy Smackover oil. With the Standard willing to pay 85 cents at the well and much of the Smackover fuel going south for bunker fuel it is not likely that crude fuel will disturb Group 3 refiner fuel much in the near future.

In Texas the M. K. & T. railroad is inquiring for a large quantity of fuel on contracts to run two years. Other buyers are turning to that field who have used Mexican and California fuel oil recently.

It is understood that Arizona smelters have even circulated inquiries in Group 3 for around 2,000,000 barrels of fuel oil to be delivered over the next two years at a flat price. Thus far no business has been done on this inquiry as far as can be learned.

With industrial conditions apparently improving it appears likely that Mid-Continent fuel oil will be steady with possible advances during the next few months no matter what may happen to the crude price structure.



Gasoline — always better than the new Navy specifications.

Kerosene — water white and sweet

- Motor and tractor oils
- Steam cylinder oils
- Engine and dynamo oils
- Refrigerating oils
- Diesel oils
- Turbine oils
- Neutrals
- Bright stocks
- Cylinder stocks
- Fuel oils
- Wax
- Grease

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THE ONE BEST WAY TO LUBRICATE

No matter what the task, specify **Marathon**—select the **Marathon** oil or grease that's built for the definite purpose. For each **Marathon** product **is** created to a purpose, and for that use it's the peer of any oil or grease made.

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We can do this because **Marathon** is made from the finest pure paraffine-base stock, refined by men who know how.

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Warehouses at convenient shipping points

Refinery Markets On Lubricants, Heavy Oils

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas

NEUTRAL OILS

PENNSYLVANIA	Prices Sept. 29	Prices Sept. 22	Prices Sept. 15
(Viscous Test 70)			
220 Vis. No. 3 Assoc. Filt.	-24	-24	23 -24
200 Vis. No. 3 Assoc. Filt.	21 -22	21 -22	20 -21
180 Vis. No. 4 Assoc. Filt.	19 -20	19 -20	18 -19
150 Vis. No. 3 Assoc. Filt.	17 -18	17 -18	16 -17
(Non-Viscous)			
34 550-360 Flash	- 7½	- 7½	7 - 7½
36 Miners Neutrals 300-305 Flash.	- 7	- 7	6½- 7
OKLAHOMA			
(Viscous Test 100)			
70 Vis. at 100°F. No. 2½-3 color.	4¼- 4¾	4¼- 4¾	4¼- 4¾
100 Vis. at 100°F. No. 2 color	5 - 5½	5 - 5½	5 - 5½
100 Vis. at 100°F. No. 2½-3 color.	4½- 5	4½- 5	4½- 5
150 Vis. at 100°F. No. 3 color	8½- 9	8½- 9	8½- 9
150 Vis. at 100°F. No. 4 color	8 - 8½	8 - 8½	8 - 8½
180 Vis. at 100°F. No. 3 color	9½- 10	9½-10	9½-10
180 Vis. at 100°F. No. 4 color	9 - 9½	9 - 9½	9 - 9½
180 Vis. at 100°F. No. 5 color	8½- 9	8½- 9	8½- 9
180 Vis. at 100°F. No. 6 color	8 - 8½	8 - 8½	8 - 8½
200 Vis. at 100°F. No. 3 color	11½-12	11½-12	11½-12
200 Vis. at 100°F. No. 4 color	11 -11½	11 -11½	11 -11½
200 Vis. at 100°F. No. 5 color	10½-11	10½-11	10½-11
200 Vis. at 100°F. No. 6 color	10 -10½	10 -10½	10 -10½
220 Vis. at 100°F. No. 3 color	12½-13	12½-13	12½-13
220 Vis. at 100°F. No. 4 color	11¾-12¼	11¾-12¼	11¾-12¼
220 Vis. at 100°F. No. 5 color	11 -11½	11 -11½	11 -11½
220 Vis. at 100°F. No. 6 color	10¾-11¼	10¾-11¼	10¾-11¼
240 Vis. at 100°F. No. 3 color	14½-15	14½-15	14½-15
240 Vis. at 100°F. No. 4 color	14 -14½	14 -14½	14 -14½
240 Vis. at 100°F. No. 5 color	13 -13½	13 -13½	13 -13½
240 Vis. at 100°F. No. 6 color	12¾-13¼	12¾-13¼	12¾-13¼
280 Vis. at 100°F. No. 3 color	16½-17	16½-17	16½-17
280 Vis. at 100°F. No. 4 color	15½-16	15½-16	15½-16
280 Vis. at 100°F. No. 5 color	14½-15	14½-15	14½-15
280 Vis. at 100°F. No. 6 color	13½-14	13½-14	13½-14
300 Vis. at 100°F. No. 6 color	17½-18	17½-18	17½-18
SOUTH TEXAS			
(Viscous Test 100; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale.	8 - 9	8 - 9	8 - 9
150 Vis. No. 2½ Color Unfilt. Pale.	10 -11	10 -11	10 -11
200 Vis. No. 3 Color Unfilt. Pale.	12 -13	12½-13¼	12½-13¼
300 Vis. No. 3 Color Unfilt. Pale.	14¼-15¾	14¼-15¾	14¼-15¾
500 Vis. No. 3½ Color Unfilt. Pale.	16½-17¾	16½-17¾	16½-17¾
750 Vis. No. 4 Color Unfilt. Pale.	22 -23	22 -23	22 -23
200 Vis. No. 2 Filt. Pale	22½-23¾	22½-23¾	22½-23¾
300 Vis. No. 2 Color Filt. Pale.	25½-26¾	25½-26¾	25½-26¾
500 Vis. No. 2½ Color Filt. Pale.	29½-30	29½-30	29½-30
750 Vis. No. 2½ Color Filt. Pale.	39½-40	39½-40	39½-40
200 Vis. No. 5½ Color Red Oil.	10½-11¾	10½-11¾	10½-11¾
300 Vis. No. 5½ Color Red Oil.	12½-13¾	12½-13¾	12½-13¾
500 Vis. No. 6 Color Red Oil.	14½-15¾	14½-15¾	14½-15¾
750 Vis. No. 6 Color Red Oil.	19½-20¾	19½-20¾	19½-20¾

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210 Bright Stock.	29 -34	29 -34	29 -34
150-160 Vis. at 210 Bright Stock.	26 -30	26 -30	26 -30
Medium Filtered Stock	16½-18	16½-18	16½-18
600 Steam Refined Olive Green	7 - 7½	7 - 7½	7 - 7½
600 Steam Refined Dark Green	5½- 6½	5½- 6½	5½- 6½
Black Oil	3¾- 4	3¾- 4	3¾- 4

PENNSYLVANIA	Prices Sept. 29	Prices Sept. 22	Prices Sept. 15
600 Steam Refined	19¼-20	18¼-19¼	18 -18¼
635 Steam Refined	23 -24	22½-23½	21¼-22½
650 Steam Refined	25 -26	24½-25	23½-24½
600 Flash	29 -30	29 -30	28 -28½
600 Warren E	-24½	-24¼	24 -24¼
600 Oil City E	23½-24	23¼-24	23¼-24
600 Filtered D	29½-30	29½-30	-28¾
Cold Test Stocks (bright filtered)	1.35 -37	34 -35	34 -36
Cold Test Stock (dark filtered)	33 -35	32 -33	32 -34
Black Oil	7 - 7¼	- 7	- 7

WAX

PENNSYLVANIA			
(Per Pound New York)			
122-124 White Crude Scale	- 5¾	5¾- 5¾	- 5¾
124-126 White Crude Scale	- 5⅞	5¾- 5⅞	- 5⅞
OKLAHOMA			
(Per Pound Group 3)			
124-126 White Crude Scale	5⅛- 5¼	5¼- 5⅜	5 - 5¼

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil	5¼- 5½	5¼- 5½	5¼- 5½
30-34 Fuel Oil	5 - 5¼	4⅞- 5	4¾- 5
OKLAHOMA			
38-40 Straw Distillate	3⅝- 3⅞	3⅝- 3⅞	3⅝- 3⅞
36-38 Straw Distillate	3⅜- 3⅝	3⅜- 3⅝	3⅜- 3⅝
32-36 Gas Oil (Gal.)	2¾ 3	2¾- 3⅛	2¾- 3⅛
24-26 Fuel Oil (bbl.)	.95 1 00	.95 1 00	.95-1.00
28-30 Fuel Oil	1.05 1 10	1.05 1.10	
Fuel Oil, buyers, cars (bbl.)	.95-1 00	.95 1 00	92½-.97½
20-22 Fuel Buyers	.95 97½	.95 -.97½	92½-.97½
40-50 Asphalt Content Road Oil	.90- .95	.90- .95	.90- .95
50-60 Asphalt Content Road Oil	.95-1.00	.95 1.00	.95-1.00
60-70 Asphalt Content Road Oil	1.00-1.10	1.00-1.10	1.00-1.10
NORTH TEXAS			
38-40 Straw Distillate	3½- 3¾	3½- 3¾	3½- 3¾
32-36 Gas Oil (gal.)	2¾- 2⅞	2¾- 3	2¾- 3⅛
24-26 Fuel, per bbl	.90- .95	.90- .95	.90-. 95
South Texas Fuel	1.50-1.60	1.50-1.60	1.50-1.60
South Texas Gas Oil	4 - 4¼	4 - 4¼	3¾- 4
NORTH LOUISIANA			
32-36 Gas Oil (Gal.)	3 - 3¼	3 - 3¼	3 - 3¼
22-26 Fuel Oil (bbl.)	.85- .90	.90- .95	.90- .95
ARKANSAS			
40-42 P. W. Dist			
38-40 Distillate	- 3¼	- 3⅛	- 3⅛
32-36 Gas Oil	- 3¼	- 3¼	- 3¼
22-26 Refinery Fuel Oil	90- .95	90 - .95	90 - .95
Smackover Crude Fuel	90- .95	90 - .95	80 - .85
East Field Crude Fuel	90- .95	90 - .95	80 - .85

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the oregoing, will favor us with this information.

Gasoline Demand Good At Chicago; Heavier Products Firm

CHICAGO, Sept. 27.—Exceptionally good gasoline consumption for the season is expected by refiners in this territory because of the fine weather prevailing and the probability that it will continue for some time.

Demard for gasoline in the Chicago market has been fairly active over the last half of this week. Although a refiner here and there has quoted U. S. motor gasoline at 6½ cens, a larger number have asked 6¾ cents and the latter price for this product is firmer as the week closes. Jobbers are ordering rather freely on their contracts, but are holding off shipping instructions until as late in the month as possible.

Kerosene supply and demand are fairly well balanced and prices are consequently firm at 4¾ cents for 41-43 and 5 cents for 42-44. A few refiners quote 42-44 at 5⅛ cents and 5¼ cents. Fall plowing has been started which might account for the slightly increased demand and higher quotations, but then it would seem that there should be no material difference in consumption between the harvesting and plowing seasons. Demand for distillates continues good and supply is small. Distributors, however, are showing more of a willingness to contract for the season. Spot market prices are 3¾ to 4 cents.

Demand for gas oil is active and the product is hard to obtain in quantities, at least for early delivery. Higher prices are asked for future business. The bottom price is 3⅛ cents, but most refiners are quoting 3¼ cents, while even others are asking as high as 3½ cents. Fuel oil continues in much the same position as gas oil. Prices of 22-26 refinery fuel are firm at 95 cents to $1, with Smackover fuels coming close behind at 90 to 95 cents. Prices on the latter products, however, may possibly be shaded in some instances.

New Storage Rates

HARRISBURG, PA., Sept. 26.—The National Transit Co. has filed new tariffs here with the public service commission embodying new and higher rates for storing oil. The new rate, which will be effective Nov. 1, will be 90 cents per day on 1,000 barrels for the first six months. Present rate is 50 cents. After six months storage, the rate will be $1.20 per thousand barrels daily.

Pennsylvania Cylinder Stocks Strong; Viscous Neutrals Are Improving

CLEVELAND, Sept. 29.—The renewed strength of cylinder stocks has been the feature of the northwestern Pennsylvania refinery markets in the last week. Buying of Pennsylvania steam refined stocks in New York for export, has had a stimulating effect and prices are generally ½ to 1 cent higher for the various stocks than a week ago.

Viscous neutral oils are a little more active and prices are firmer at the levels which obtained the first of the week. Neutrals with low cold test are being quoted 3 cents a gallon higher than the regular neutrals. Some 150 No. 3 color also may be picked up as low as 16½ cents but the quantity seems to be limited.

Kerosene and fuel oils have been firm throughout the week. Some demand for 36-40 as a fuel for home heating has developed but improvement in industry has been a more important factor in the betterment of this oil. Around Pittsburgh refiners are able to get 6 cents a gallon first because of the short hauls to consumers whereas at refineries to the north the price ranges ½ to ¾ cents a gallon lower.

Light gasolines have been steady but motor grades are cheaper although demand is still good. The lowering of prices was forced by the condition in the Mid-Continent market. Any great strengthening in the southwest may result in slightly improved prices in Pennsylvania before the regular winter slackening sets in.

Paraffin wax is stronger in sympathy with the New York market.

Kentucky

Light gasolines are steady in central Kentucky markets but heavier grades have been marked down in conformity with the recent decline in Mid-Continent markets. Kerosene, gas and fuel oils are firm. Prices today at central Kentucky plants are: 58-60 gasoline. 9 cents; 60-62, 400 e.p., 10½; 62-64, 11; 64-66, 11½; 68-70, 12¼; 42-44 kerosene, 7; 32-36 gas oil, 5, and 24-26 fuel, 4 cents.

North Texas Markets Are Recovering

Staff Special

WICHITA FALLS, Sept. 27.—North Texas refinery markets have begun to recover from the extreme low prices which prevailed on gasoline. Gasoline shipments have been on a much larger scale this week. Several important refiners are sold up and unable to ship any additional goods before Oct. 1.

After a period of weakness high gravity gasolines have strengthened again and the available supply in the field for immediate shipment is not large. The 60-62 grade is very scarce at 8¼ to 8½ cents.

A small order for kerosene to be shipped to Gulf ports for export in October was placed this week, adding strength to that part of the market. Refiners here are expecting additional export orders for burning oils in view of the rising market and scarcity at Gulf terminals.

Fuel oil has been strong and scarce. A fuel buyer for the M. K. & T. railroad has been in the field for several days offering to contract for large quantites of fuel to be delivered over two years. The fuel agent has been offering 60 per cent of crude, it is reported.

It is believed that so far the railroad buyer has been unable to place any part of his requirements. Refiners generally feel that they must have a better contract arrangement before they will sell. Some desire a minimum price scale of about 80 to 85 cents per barrel on low priced crude with a maximum price of around $1.50 to $1.75 per barrel on high priced crude.

It is understood that the railroad is obtaining less and less fuel from Mexico and that it will be a good buyer in north Texas in the future.

Smelters from Arizona and New Mexico which have bought California fuel oil during the past two years are again interested in north Texas refinery fuel. These buyers are seeking oil on a flat price basis.

Gins and cotton oil mills are reopening in Texas and are taking large quantities of fuel oil with the result that the market is extremely tight. Several refiners in the Wichita Falls area will sell none below 95 cents per barrel.

J. K. Helmar, Fort Worth Marketer, Dies

Staff Special

FORT WORTH, Sept. 27.—James K. Helmar, president of the Radio Petroleum Co., Fort Worth, died suddenly on Sept 12, while he was driving home from Corpus Christi. His body was brought to Fort Worth for burial. Mr. Helmar is survived by his widow and one daughter, Mrs. C. D. Daniels.

Mr. Helmar was widely known in refining and marketing circles in the southwest. He was formerly associated with Anderson & Gustafson and the companies which succeeded it. Two years ago he formed the Radio Petroleum Co. with L. A. Greene with whom he had been working.

Rain And Cool Weather Forecast For Week

CHICAGO, Sept. 29.—Showers are forecast for the middle of this week in the region of the Great Lakes, and the Ohio river valley. Rain will fall early in the week in the upper Mississippi and lower Missouri valleys. Cool temperatures are forecast for early in the week but warmer weather is expected about the middle of the week.

The past week has been an excellent week for business in Standard Oil Co. of Indiana territory. Heavy rains fell along the north Pacific coast and in the middle Rocky Mountain region during the middle and latter parts of the week. The first fall of snow this season was reported from Rock Springs, Wyo., on Sunday, Sept. 21.

Calif. Gasoline Shipments Double Last Year's

LOS ANGELES, Sept. 29.—That shipments of gasoline from California seaports during the first six months of the current year were more than double the shipments from the same territory during the first half of 1923 is a fact which has been established by statistics compiled by Victor W. Killick of the Independent Petroleum Marketers' Association.

During the first half of 1923, according to Mr. Killick, California shipped 45,000,000 gallons of gasoline. During the first half of 1924 the state shipped 103,000,000 gallons of gasoline out of port. The cargoes went from Los Angeles harbor, San Francisco, San Luis Obispo and San Diego.

It is the belief of Mr. Killick that exports of gasoline from here during the last half of this year will exceed those of the last half of 1923.

South Texas Market Firm

HOUSTON, Sept. 29.—Because of good fall buying the Gulf Coastal lubricant market is in better shape than in any fall for several years. Prices are firm. Some sales managers report they are sold up well into October. Others reported they were not in so good a position but were carrying no stocks they would describe as surpluses. Greatest demand is for 300 to 500 viscosity pales. Another good seller is 500 viscosity red.

Producing Zero Oils

DALLAS, Sept. 27.—The Oriental Oil Co. here is making zero cold test oils from Gulf Coastal crude which it will offer generally to the jobbing trade. Prior to Sept. 1 the company refined only Mid-Continent paraffin base oils.

Crude for the production of the new line of oils is being brought in by tank car from Three Rivers. The refinery is now on a quantity production basis on both pale and red, filtered and straight distilled oils.

Tank Wagon, Service Station Markets
Gasoline and Kerosene

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers. Usually this price does not apply to sales to consumers from tank wagons.

Prices in effect September 29

S. O. NEW JERSEY TERRITORY

	Gasoline			Oil	
	T.W.	Tax	Total	S.S.	T.W.
Atlantic City, N.J.	16 5	0	16 5	*	13
Newark, N. J.	16 5	0	16 5	*	13
Annapolis, Md.	16	2	18	*	12
Baltimore, Md.	16	2	18	21	11
Cumberland, Md.	16	2	18	21	12.5
Washington, D.C.	16	2	18	20	12.5
Danville, Va.	16 5	3	19 5	*	13.5
Norfolk, Va.	16 5	3	19 5	21.5	13.5
Richmond, Va.	16 5	3	19 5	23	13.5
Roanoke, Va.	16 5	3	19 5	21.5	13.5
Petersburg, Va.	16 5	3	19 5	*	13.5
Charleston, W.Va.	16	2	18	21	13.5
Clarksburg, W.Va.	16	2	18	20	13.5
Keyser, W.Va.	16	2	18	*	13.5
Parkersburg, W.Va.	16	2	18	20	13.5
Wheeling, W.Va.	16	2	18	21	13.5
Williamson, W.Va.	16	2	18	*	13.5
Charlotte, N.C.	16	3	19	22	13.5
Hickory, N.C.	16	3	19	*	13.5
High Point, N.C.	16	3	19	*	13.5
Mt. Airy, N.C.	16	3	19	*	13.5
Salisbury, N.C.	16	3	19	*	13.5
Charleston, S.C.	16 5	3	19 5	22 5	14
Columbia, S.C.	16 5	3	19.5	21.5	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK TERRITORY

*New York City	17	0	17	20.5	13
Albany, N. Y.	16	0	16	18	13
Buffalo, N. Y.	14	0	14	17	13
Rochester, N. Y.	15	0	15	19	13
Syracuse, N. Y.	14	0	14	16	12
Boston, Mass.	17	0	17	19 5	12
Augusta, Me.	17	1	18	20 5	13
Manchester, N.H.	17	2	19	21 5	13
Burlington, Vt.	17	1	18	20.5	13

*In steel barrels.

ATLANTIC REFINING TERRITORY

Pittsburgh, Pa.	17	0	17	22*	14
Philadelphia, Pa.	17	0	17	22*	14
Allentown, Pa.	17	0	17	22*	14
Erie, Pa.	17	0	17	22*	14
Scranton, Pa.	17	0	17	22*	14
Altoona, Pa.	17	0	17	22*	14
Dover, Del.	17	2	19	22	14
Wilmington, Del.	17	2	19	22	14
Providence, R. I.	17	0	17	20	13
Springfield, Mass.	17	0	17	21	13
Worcester, Mass.	17	0	17	21	13
Hartford, Conn.	17	1	18	21	13
New Haven, Conn.	17	1	18	21	13
Boston, Mass.	17	0	17	20	13

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. OHIO TERRITORY

All Ohio points	15	0	15	17	14

S. O. KENTUCKY TERRITORY

Lexington, Ky.	14	3	17	20	14
Louisville, Ky.	13	3	16	18	12
Covington, Ky.	12	3	15	18	14
Clarksdale, Miss.	15	3	18	21	12
Jackson, Miss.	15	3	18	21	10
Natchez, Miss.	14 5	3	17.5	20.5	11.5
Vicksburg, Miss.	14.5	3	17.5	20.5	11.5
Birmingham, Ala.	17	2	19	21	14.5
Mobile, Ala.	16	2	18	20	12.5
Montgomery, Ala*.	18	2	20	22	15.5
Atlanta, Ga.	16	3	19	23	13
Augusta, Ga.	18	3	21	23	13.5
Macon, Ga.	18	3	21	23	14.5
Savannah, Ga.	15	3	18	20	13
Jacksonville, Fla.	16	3	19	21	13
Miami, Fla.	18	3	21	23	14.5
Tampa, Fla.	16	3	19	21	13
Pensacola, Fla.	16	3	19†	19	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.
†T. W. open market price to consumers 21 cents.

S. O. CALIFORNIA TERRITORY

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	14	2	16	19	15.5
Fresno, Cal.	15.5	2	17.5	20.5	17.5
San Francisco, Cal.	15	2	17	20	15.5
Reno, Nev.	18.5	2	20.5	23.5	19
Portland, Ore.	16	3	19	22	16.5
Seattle, Wash.	16	2	18	21	16.5
Spokane, Wash.	20	2	22	25	20.5
Tacoma, Wash.	16	2	18	21	16.5

S. O. LOUISIANA TERRITORY

	Gasoline			Oil	
	T.W.	Tax	Total	S.S.	T.W.
Camden, Ark.	15	4	19	21	13
Little Rock, Ark.	15	4	19	21	13
West Helena, Ark.	15	4	19	21	13
Alexandria, La.	13.5	2	15.5	18.5	13
Baton Rouge, La.	12	2	14	17	11.5
Lake Charles, La.	13 5	2	15 5	18.5	13
New Orleans, La.	12.5	2	14 5	17 5	9
Shreveport, La.	13 5	2	15 5	18.5	13
Bristol, Tenn.	16	2	18	21	13.5
Chattanooga, Tenn.	14	2	16	19	14.5
Knoxville, Tenn.	15 5	2	17 5	20.5	15
Nashville, Tenn.	14.5	2	16 5	19.5	13.5
Memphis, Tenn.	13	2	15	18	14

MAGNOLIA PETROLEUM TERRITORY

Muskogee, Okla.	9 5	2½	12	16	11
Oklahoma City	9 5	2½	12	15	10
Tulsa, Okla.	9 5	2½	12	15	10
Fort Smith, Ark.	11	4	15	18	12
Little Rock, Ark.	15	4	19	22	13
Texarkana, Ark.	12	4	16	19	13
Dallas, Tex	11	1	12	16	10
El Paso, Tex.	11	1	12	14	12
Fort Worth, Tex.	9	1	10	12	11
Houston, Tex.	13	1	14	18	12
San Antonio, Tex.	12	1	13	15	10

S. O. INDIANA TERRITORY

Chicago, Ill.	14	0	14	16	11
Decatur, Ill.	13.2	0	13.2	15.2	11.5
E. St. Louis, Ill.	12.1	0	12.1	14.35	10.6
Joliet, Ill.	13.4	0	13.4	15.4	11.7
Peoria, Ill.	13.2	0	13.2	15.2	11.5
Quincy, Ill.	13.2	0	13.2	15.2	11.3
Indianapolis, Ind.	13.2	2	15.2	17.2	11.7
Evansville, Ind	13	2	15	17	11.5
South Bend, Ind.	13.4	2	15.4	17.4	11.9
Detroit, Mich.	13.8	0	13.8	15.8	12.2
Grand Rapids, Mich.	13.7	0	13.7	15.7	12.1
Saginaw, Mich.	13.9	0	13.9	15.9	12.3
Madison, Wis.	13.3	0	13.3	15.3	11.5
Milwaukee, Wis.	13.1	0	13.1	15.1	11.3
La Crosse, Wis.	14.2	0	14.2	16.2	12.4
Minneapolis, Minn.	14.2	0	14.2	16.2	12.6
Duluth, Minn.	14.5	0	14.5	16.5	12.6
Mankato, Minn.	14.1	0	14.1	16.1	12.4
Des Moines, Iowa.	13.5	0	13.5	15.5	11.9
Davenport, Iowa	13.5	0	13.5	15.5	11.9
Sioux City, Iowa.	13.1	0	13.1	15.1	11.5
Mason City, Ia.	13.5	0	13.5	15.5	11.9
St. Louis, Mo.	12.1	½	12.6	14.9	11
Kansas City, Mo.	12.9	1	13.9	15.9	10.3
St. Joseph, Mo.	12.5	½	13	15	10.9
Fargo, N. D.	15.9	1	16.9	18.9	14.6
Grand Forks, N. D.	16.2	1	17.2	19.2	14.9
Minot, N. D.	15.9	1	16.9	18.9	14.6
Pierre, S. D.	15	2	17.0	19.0	13.1
Huron, S. D.	15	2	17 0	19 0	13.1
Wichita, Kans.	12.8	1	12.8	14.8	9.8
Bartlesville, Okla.	11.9	2½	14.4	16.4	9.9

S. O. NEBRASKA TERRITORY

Crawford, Neb.	14	0	14	*	12.25
Omaha, Neb.	11	0	11	13	11 5
McCook	14.75	0	14.75	16.75	13
Norfolk	13 75	0	13 75	15 75	12
North Platte	14.75	0	14 75	16.75	12.75
Scotts Bluff	14 25	0	14 25	16.25	12.25

*Standard has no service station here.

CONTINENTAL OIL TERRITORY

Denver, Colo.	14	2	16	18	13.5
Glenwood Sp'gs. Colo	18	2	20	*	17 5
Pueblo, Colo.	14	2	16	18	13.5
Basin, Wyo.	16	1	17	*	14
Casper, Wyo.	14	1	15	17	12
Cheyenne, Wyo.	15 5	1	16 5	18.5	13.5
Cody, Wyo.	17	1	18	*	15
Lander, Wyo.	16	1	17	*	14
Sheridan, Wyo.	18	1	19	21	16
Billings, Mont.	16 5	2	18.5	20.5	14.5
Butte, Mont.	18	2	20	22	15
Great Falls, Mont.	18	2	20	22	16
Helena, Mont.	18	2	20	22	16
Miles City, Mont.	17 5	2	19 5	21 5	15.5
Missoula, Mont.	18	2	20	22	16
Ogden, Utah	17 5	2½	20	22	17
Salt Lake City, Utah.	17 5	2½	20	22	17
Boise, Ida.	20 5	2	22.5	24 5	19
Idaho Falls, Ida.	20	2	22	24	18 5
Albuquerque, N.M.	19	1	20	22	15.5

*Continental has no service stations at these points.

Week s Price Changes Tank Wagon Market

Gasoline Reductions

Standard of New York—T.w. and s.s. 1 cent, Buffalo, to 14 and 17 cents respectively, Sept. 27. Corrections: New York City s.s. price was not included in the 1 cent reduction on Sept. 19, it remaining at 20.5 cents, as shown in this week's table. S. S. prices at Albany, Buffalo, Rochester, Syracuse, due to typographical error, were shown 1 cent below the market in last week's table, but are corrected in this week's table.

Standard of Ohio—1 cent reduction which was effective Sept. 16 was not noted in last week's table. Prices should have been 15 t.w. and 17 s.s. since Sept. 16.

Standard of Kentucky—T.w. and s.s. 1 cent at Covington, Ky., Sept. 25.

Standard of Louisiana—S.s. prices only 1 cent in Arkansas and Louisiana, Sept. 25. T.w. prices only 1 cent in Louisiana and Tennessee, Sept. 26.

Magnolia Petroleum—S. s. 2 cents at Oklahoma City, to 15 cents t.w. remaining at 12 cents, Sept. 17. Oklahoma City s.s. was cut 2 cents on Sept. 15 instead of 3 cents as previously reported, which made s.s. at that point on that date 17 cents instead of 16 cents. T.w. only 1 cent at Tulsa to 12 cents, t.w. only 1 cent at Little Rock to 19 cents, and s.s. only 1 cent at San Antonio to 15 cents, all on Sept. 19. S.s. only 1 cent at Tulsa to 15 cents, Sept. 27. T.w. and s.s. 2 cents at Fort Smith to 15 and 18 cents respectively, Sept. 26.

British Importations

NEW YORK, Sept. 29—During the week ended Sept. 8, importations of petroleum into the United Kingdom were small, amounting to but 19,501,080 imperial gallons. Larger receipts at London included:

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Arcos	1,307,346	Benzine	Batoum
Anglo-Am	992,610	Lubes	New York
Anglo-Am	120,089	Kerosene	New York
Anglo-Mex	1,224,000	Gas Oil	N. Orleans
Shell	2,017,865	Benzine	S. Pedro
Shell	2,385,477	Crude	Curacao
At Liverpool—			
Anglo-Amer.	230,990	Lubes	New York
Anglo Amer.	233,990	Kerosene	New York
At Bristol—			
Anglo-Mex.	710,000	Kerosene	Tampico
At Hull—			
Anglo-Mex	1,345,000	Fuel Oil	Tampico
At Manchester—			
Lubricant Prod.	850,150	Lubes	N. Mexico
Anglo-Mex.	653,200	Kerosene	Tampico
At Southampton—			
Brit.-Mex.	1,955,802	Fuel Oil	Tampico
Anglo-Amer.	1,091,680	Fuel Oil	Tampico
Anglo-Amer.	1,963,140	Gasoline	Baton Rouge
Shell	1,734,962	Fuel Oil	Tampico
At Aberdeen—			
Shell-Mex.	472,000	Fuel Oil	Tampico

	Totals
Shell Marketing Ltd.	6,100,000
Anglo American Oil Co., Ltd.	4,700,000
Anglo Mex. Pet. Co., Ltd.	3,900,000
British Mex. Pet. Co., Ltd.	1,960,000
Arcos, Ltd.	1,300,000
Lubricant Producers, Ltd.	850,000
Shel Mex., Ltd.	470,000

Complete Export Markets

New York **Gulf Coast** **California**

Export Demand For Lubricating Oils, Kerosene And Wax Improves

By Special Correspondent

NEW YORK, Sept. 29

THERE was a better movement for lubricating oils last week. Pennsylvania 600 steam refined was in steady demand, and many of the leading refiners are now demanding 29 cents a gallon in barrels New York, but business could have been done at 27 cents in one or two directions. British buyers were in the market for lots ranging from 500 to 2,500 barrels, but local factors are not eager to press sales at prevailing prices regardless of the depression existing in crude oil and gasoline. The movement in spindle oil is better.

Gasoline has eased off a little further. Export prices posted by leading companies are nominal, U. S. Motor being quoted at 12¼ cents a gallon, in bulk, while actual business could have been done at 10 cents a gallon at the Bayonne refineries. Foreign buyers are inquiring for gasoline in an academic way only and are taking little or nothing. Cased gasoline, however, is moving in a steady way, and a good deal is going to the Orient and Near East. There was an inquiry in the local market for 25,000 cases for shipment during the first half of October, but this did not materialize although it is expected that one of the Independents will close the deal this week.

U. S. Motor gasoline in single tank cars delivered to the trade is offered freely at 11¼ cents a gallon with indications that 11 cents can be done on a firm bid. The price in steel barrels to garages is easy at 17 cents a gallon.

Kerosene was in better export demand French buyers have been purchasing a little more freely, but refiners report considerable difficulty in landing business at present asking prices. Refiners are quoting water white at 7¼ cents Bayonne, with a possibility of doing 7 cents on a bid. Scandinavian buyers are showing more interest in kerosene but no confirmed sales were located. Movement of cased goods has improved considerably, but this business is being taken care of by one or two of the large Independents and the smaller factors have not been getting many orders for cased kerosene of late.

Bunker oil is a shade steadier. Grade C is still quoted at $1.75, f. o. b. Bayonne. Demand was anything but active, and chiefly from local buyers. Stocks in these parts, however, are not large and two of the big refiners are out of the market for the present declaring that they are barely able to take care of their standing contracts.

Diesel oil was in slightly better export demand, but foreign buyers are also skeptical of purchasing heavily of this oil. The price was unchanged at $2 a barrel, f. o. b. refinery.

Gas oil was flat, but fairly steady at 5¼ cents a gallon for 36-40 f. o. b. Bayonne. There were several inquiries from London for bulk cargoes, but the ideas entertained by buyers were considerably below those of domestic interests and actual business was light, being confined to small quantities for prompt consumption.

White crude scale wax was in better demand and prices for several grades were up from ⅛ to ¼ cent a pound. For 122-124 A. m. p. the asking price was 5¾ cents a pound against 5½ cents the previous week while 124-126 A. m. p. was held at 5⅞ cents a pound. German, Scandinavian and United Kingdom buyers are credited with the bulk of last week's purchases. Sales of 50 ton lots were more numerous than for several weeks back. Fully refined waxes were in fairly good request and 118-122 A. m. p. was held at 5¾ cents a pound with some factors demanding 5⅞ cents. Yellow crude scale was steady at 5½ cents for 124-126 A. m. p. The demand from Japan for match wax was more active and considerable business is understood to have been put through at 6 cents for 105-108 A. m. p.

Petrolatums were less active. Snow white was a shade easier at 12¾ cents a pound while lily white was freely offered at 10 cents. European consumers are fairly well supplied.

New York Export Market

(Actual Sales Prices)

The following prices are quoted by eastern seaboard independent refineries on products which are manufactured from Mexican crude transported from Tampico to the refinery by tanker and from California crude.

	Sept. 29	Sept. 22
U. S. Motor Gasoline, Tank Cars Delivered	11¼	–11¼
U. S. Motor Gasoline, Tank Cars Bayonne	10	10
Kerosene, 45-150 W W Tank, Cars Del'd	.08½	.08½
Grade C Bunker, f.o.b. N.Y.	1.75	1.75
Diesel Oil f.o.b. Refinery	2.00	2.00
Gas Oil, 36-40, Bulk, refinery.	05¼	05¼

LUBRICATING OILS

(Actual Export Sales Prices)

CYLINDER STOCKS	Sept. 29		Sept. 22	
Penna. Filtered D 600 bbls.	34	–35	34	–35
Penna. Filtered E 600 bbls.	32	–34	32	–34
Unfiltered 600 s.r. bbls.	27	–28		–25½
Unfiltered 650 s. r. bbls.	30	–31	30	–31
600 flash s. r. bbls.	34			–34
Western 600 s. r. bbls.	16½–17½		16½–17½	
Bloomless 30-31 grav. bbls.	21			–21
RED PARAFFIN (bbls.)				
300 vis. at 100°F.	24	–25	24	–25
250 vis. at 100°F.		22		22
175 vis. at 100°F.	21	–22	21	–22
High Viscosity Paraffin		29		29
225 vis. pale 100 at 100°F.	15	–16	15	–16
SPINDLE (bbls.)				
200 vis. Pale at 100°F.		22		22
180 Pale		21		21
150 Pale		18		18
BLACK OIL (bbls.)				
25-30 c. t.	14	–15½	14	–15½
15 c. t.	15	–16½	15	–16½

WAXES

(Actual Export Sales Prices)

(F. A. S. Carload Lots)

WHITE CRUDE SCALE	Sept. 29	Sept. 22
122-124 A. m. p.	–05¾	–05½
124-126 A. m. p.	–06	–05¾
MATCH		
105-108 A. m. p.	06	06
111-115 A. m. p.	06⅛	06⅛
FULLY REFINED		
118-122 A. m. p.	06	05¾
123-125 A. m. p.	06⅛	05¾
125-127 A. m. p.	06⅛	06
128-130 A. m. p.	06½	06¼
130-132 A. m. p.	06¾	06½
133-135 A. m. p.	07¼	07¼
SEMI REFINED		
122-124 A. m. p.	06¼	05¾
YELLOW CRUDE SCALE		
124-126 A. m. p.	05¾	05¾

PETROLATUMS

(Actual Sales Prices)

Snow White	12¾	12¾
Lily White	10	10
Cream Petroleum Jelly	07¾	07¼
Veterinary	04	04
Light Amber	03¾	03¾
Dark Amber	03½	03½
Dark Green	03¾	03¾

(Cooperage Basis)

MEDICINAL OILS

(Actual Sales Prices)

Domestic 875-885 s.g. drums	1.15	1.15
Domestic 865-870 s.g. drums	90	90
Russian 885-890 s.g. 325-330 vis. drums	1.25	1.10

New Orleans Market Is Quiet Although Several Products Are Improving

By Special Correspondent

NEW ORLEANS, Sept. 29

WHILE a fairly keen academic interest was manifested by leading export buyers, actual demand from abroad was disappointing. Only one bulk sale was reported, and this consisted of a mixed cargo of gasoline and kerosene. The slump in the foreign demand was attributed to the declining markets here.

Gasoline has weakened and at the close of the week, leading Independents were offering U. S. Motor freely at 8¼ cents a gallon against 8⅝ cents the previous week, while 64-66 was off ¼ cent at 10¼ cents a gallon. A large United Kingdom buyer was credited with the purchase of 40,000 barrels of gasoline and kerosene mixed. The gasoline sold at the afore stated prices while it was reported that prime white kerosene brought 5¾ cents and water white 6¾ cents. This cargo will be shipped late in October. Rumor had it that one factor was considering bids for water white at 6½ cents a gallon.

Cased gasoline was moving in a slightly larger way with refiners quoting U. S. Motor at $2.40 and 64-66 at $2.60 but indications were that these prices could have been shaded. Inquiries for from 10,000 to 20,000 cases of gasoline were numerous enough, but comparatively little fresh cased business was closed. Japanese buyers have been inquiring but expect price reductions and consequently are holding off.

French buyers have been manifesting more interest in gasoline but are entertaining ideas below those of the big refiners. However, it is expected that several cargoes now under negotiation will be closed this week.

Many of the Independents report considerable difficulty in securing space to either the United Kingdom or the Continent, which is also tending to restrict the export movement. Cotton shipments are said to be virtually monopolizing Shipping Board vessels at present.

Gas Oil More Active

A large Denmark jobbing concern is in the market for a cargo of 42,000 barrels of 26-28 gravity gas oil. These interests were bidding 4¼ cents a gallon at the Gulf, but apparently there was nothing to be had at this figure. Most of the big refiners are asking from 4⅜ to 4½ cents for 26-28 while 32 plus is held at 4½ cents a gallon. One of the big refiners in reply to a bid for a cargo, declared that they were entirely sold up on 26-28 gas oil to March 1. German buyers need this oil but are unwilling to pay these prices. Domestic buying has been along extensive lines and the consensus of local opinion is that prices will go higher before long.

Cased Kerosene Picking Up

Cased kerosene has been moving in a larger way. Japanese interests who have been inqiring for several days back have started to purchase a little more freely and sales of from 15,000 to 25,000 cases were frequently reported. Prime white was bringing $1.60 a case and water white $1.70 a case. No straight cargoes of kerosene were reported moved, although there were several inquiries from Germany and Scandinavia. British buyers are not showing much interest in kerosene just now, but there is a good contract movement to the United Kingdom. Prime white in bulk was held at 5¾ cents and water white at 6¾ cents a gallon. The continued weakness in crude oil is held largely responsible for the slump in export buying.

Bunker Oil Steadier

Bunker oil is steadier. The Shipping Board sold a cargo of Grade C to one of the large Independent refiners at $1.35 per barrel. Demand for bunker oil was a shade more active. Export buyers are showing a keener interest in the market and prices are steady. British buyers have been inquiring in an active way but are bidding below $1.35 per barrel.

Lubes in Better Demand

The movement of lubricating oils is gaining. French, British and German buyers have been inquiring in a spirited way, but no bulk cargo movements were recorded, although rumor had it that a part cargo of assorted lubricants aggregating about 18,000 barrels had been sold to a French buyer. Cylinder stocks are in growing demand while spindle oils are also moving in a much larger way.

The list of waxes holds firm reflecting the improved demand, and few refiners are inclined to press sales. Many are sold up for some time ahead and are not interested in the inquiries from abroad. British and Scandinavian buyers have been inquiring for white crude scale wax, while the latter have also been looking around for match waxes. Refined wax was not active as the others but prices were well maintained.

N. Y. Export Quotations

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

Illuminating Oils

	Sept. 29	Sept. 22
Bulk, gal., Bayonne	6.50	6.50
Barrels, gal., Bayonne, cargo	13.50	13.50
Cases, gal., Bayonne	16.90	16.90

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naptha
(Cents per Gallon)

U. S. Motor, dead bulk	12.25	12 25
U. S. Motor, cases	26 40	26 40
Export Naptha bulk	13 25	13 25
63-66 deg. bulk	14.50	14.50
66-68 deg. bulk	16.00	16.00

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk	12.75	12.75
58-59 deg. cases	26.40	26.40
Export grade, U. S. Motor Specifications bulk	12.25	12.25
63-65 deg. bulk	14 50	14 50
68-72 deg. bulk	17 00	17.00

	Bulk	Barrels	Cases
Standard white 110	6.50	13.50	16.90
Water white 150	7.50	14.50	17.90

The Texas Company

Gasoline, cases	26.40

Kerosene	Bulk	Barrels	Cases
Standard White	6.50	13.50	16.90
Prime White	7.00	14.00	16.40
Water White	7.50	14.50	17.90

Gulf Export Market

(Actual Sales Prices)

Gasoline

	Sept. 29	Sept. 22
U. S. Motor, Bulk F.O.B.	-.08¼	-.08⅝
64-66, Bulk F.O.B.	-.10¼	-.10½
U. S. Motor, Cases (Cargo Lots)	2.40	2.40
64-66, Cases (Cargo Lots)	2.60	2.60

KEROSENE

Water White, bulk	06½-.06¾	-06⅞
Prime White, bulk	.05¾	-05¾
Water White, cases (Cargo Lots)	1.70	1.70
Prime White, cases (Cargo Lots)	1.60	1.60

GAS AND BUNKER OILS

26-28, gravity, bulk	04⅜-04½	04¼
32 plus, bulk	-04½	04⅜
Grade C, Bunker oil (F.O.B.)	1.35	1.35

Cargoes Clearing From New York

	Destination	Product	Quantity
Sept. 9	Port Au Said	Kerosene	3,000 cases
Sept. 9	Port Au Said	Gasoline	1,500 cases
Sept. 18	Yokohama	Gasoline	110,005 cases
Sept. 18	Barcelona	Naptha	471,636 gals.
Sept. 18	Alicante	Naptha	395,140 gals.
Sept. 18	Alicante	Kerosene	315,514 gals.
Sept. 18	Valencia	Naptha	209,675 gals.
Sept. 18	Valencia	Kerosene	36,481 gals.
Sept. 18	Valencia	Fuel Oil	94,642 gals

Pacific Export Market

(Cargo lots quotations at seaboard, San Francisco Bay and Los Angeles refinery points, f.o.b. docks.)

	Sept. 17	Sept. 1
Gasoline, U. S. Motor—54°—56°	09 - 10¾	09c- 10c
Gas Oil, 24°—30°B per bbl.	$1.65	$1.65
Diesel Oil, 27°B-plus per bbl.	$1.65	$1.65
Bunker Oil, 14°—18°B per bbl.	$1.40	$1.40
Fuel Oil, 14°—18°B per bbl.	$1.40	$1.40
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	05½c-06½c	05½c-06½c

Cased Shipments

Gasoline, U. S. Motor	$2.50	$2.50
Kerosene, W. W. 40°—42° B per case, flash test 125-150	$1.55-$1.65	$1.55-$1.65

Crude Oil Prices All Fields

EASTERN FIELDS

	1924 Sept. 29	1923 High		1923 Low		1922 High		1922 Low	
Bradford-Allegany	$2.85	Feb.15	$4.25	Nov.13	$2.60	Jan.1	$4.00	July 19	$3.00
Other Pennsylvania	2.75	Feb.15	4.00	Nov.13	2.35	Jan.1	4.00	July 19	3.00
Cabell	1.45	Feb.15	2.76	Nov.13	1.20	Jan.1	2.61	July 19	1.86
Corning	1.65	Feb.15	2.30	Nov.14	1.25	Jan.1	2.40	July 20	1.75
Somerset	1.55	Feb.15	2.55	Nov.13	1.15	Jan.1	2.40	July 19	1.65
Somerset Light	1.70	Feb.15	2.80	Nov.13	1.30	Jan.1	2.65	July 19	1.90
Ragland	.90	Feb.15	1.10	July 10	.75	Jan.1	1.25	July 19	1.00

Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Wooster	$1.40	Feb.19	$2.50	Nov.9	$1.25	Jan.1	$2.70	Sept.21	$1.90
Lima	1.58	Feb.19	2.58	Nov.9	1.43	Jan.1	2.48	July 20	1.98
Indiana	1.38	Feb.19	2.38	Nov.9	1.23	Jan.1	2.28	July 20	1.78
Princeton	1.37	Feb.19	2.37	Nov.8	1.22	Jan.1	2.27	July 20	1.77
Lodi	1.40	Feb.19	2.50	Nov.9	1.25	Jan.1	2.70	July 20	1.90
Illinois	1.37	Feb.19	2.37	Nov.8	1.22	Jan.1	2.27	July 20	1.77
Waterloo, Ill	.75	Feb.19	1.85	Nov.9	.70	Jan.1	1.75	July 20	1.25
Plymouth	.75	Feb.19	1.75	Nov.9	.60	Jan.1	1.65	July 20	1.15
Canadian Petrolia	1.98	Feb.19	2.98	Nov.9	1.83	Jan.1	2.88	July 20	2.38

MID-CONTINENT AND NORTH TEXAS FIELDS

Below 30	$ .75	Currie	$1.25
30-32.9	.90	Mexia	1.25
33-35.9	1.10	Powell	1.25
36 and above	1.25		

Humble's Ranger Prices

Below 30	$ .90	33-35.9	$1.25
30-32.9	1.10	36 and above	1.35
Wichita and Archer Cos	1.25		

Magnolia's Price Schedule
North and North-Central Texas, Okla., and Kan.

Below 28	$ .90	Corsicana, light*	$1.25
28-30.9	1.00	Corsicana heavy	.90
31-32.9	1.10	Thrall	1.00
33 and above	1.25	*Including Powell and Mexia	

NORTH LOUISIANA-ARKANSAS FIELDS

Caddo, 38 degrees and above	$1.35	Bull Bayou, 38 and above	$1.15
do 35 to 37.9	1.25	do 35 to 37.9	1.00
do 32 to 34.9	1.15	do 32 to 34.9	.85
do below 32	1.00	DeSoto	1.20
Homer, 35 and above	1.10	Crichton	1.00
do 33 to 34.9	1.00	Bellevue	1.10
do 31 to 32.9	.90	Smackover, 26 and above	.95
do below 31	.75	25 to 25.9	.80
Haynesville, 33 and above	1.00	24 to 24.9	.70
do below 33	.90	Below 24 Be	.85
El Dorado, 33 and above	1.10	Stephens 26 and above	.90
do below 33	1.00	do below 26	.70
		Cotton Valley	.80

GULF COASTAL FIELDS

	1924 Sept. 29	1923 High		1923 Low		1922 High		1922 Low	
Spindletop	$1.25	Mar.15	$1.75	Aug.18	$1.00	Jan.1	$1.25	Dec.30	$1.25
Goose Creek "A"	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Goose Creek "B"	1.05	Mar.15	1.50	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Sour Lake	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Humble	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Batson	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Hull "A"	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Hull "B"	1.05	Mar.15	1.80	Jan.1	.80	Jan.1	1.25	Dec.30	1.25
West Columbia	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Edgerly	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Vinton	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Jennings	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Dayton	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Saratoga	1.25	Mar.15	1.75	Aug.18	1.00	Jan.1	1.25	Dec.30	1.25
Orange "A"	1.25								
Orange "B"	1.05								
Pierce Junction "A"	1.25								
Pierce Junction "B"	1.05								

WYOMING FIELDS

Elk Basin	$1.20	Feb.17	$2.10	Nov.9	$ .95	Jan.1	$1.90	Aug.4	$1.20
Grass Creek	1.20	Feb.17	2.10	Nov.9	.95	Jan.1	1.90	Aug.4	1.20
Big Muddy	.75	Feb.17	1.65	Nov.9	.45	Jan.1	1.40	Aug.4	.70
Salt Creek	.85	Feb.17	1.65	Nov.9	.60	Jan.1	1.40	Aug.4	.70
Lance Creek	1.15	Feb.17	2.10	Nov.9	.80	Jan.1	1.90	Aug.4	.20
Rock Creek	.95	Feb.17	1.75	Nov.9	.60	Jan.1	1.50	Aug.4	.80
Osage	1.15	Feb.17	2.10	Nov.9	.80	Jan.1	1.90	Aug.4	1.20
Cat Creek, Mont	1.20	Feb.17	2.10	Nov.9	.95	Jan.1	1.90	Aug.4	1.20
Sunburst, Mont	.90	Feb.17	1.50	June 6	.70				

CALIFORNIA

14-19.9	$1.00	25-25.9	$1.10	30-30.9	$1.25
20-20.9	1.01	26-26.9	1.13	31-31.9	1.28
21-21.9	1.02	27-27.9	1.16	32-32.9	1.31
22-22.9	1.03	28-28.9	1.19	33-33.9	1.34
23-23.9	1.05	29-29.9	1.22	34-34.9	1.37
24-24.9	1.07			35 and above	1.40

Refiners', Compounders' Supplies

Following are the average market prices for the week on materials used by refiners and Compounders f. o. b. shipping point as effective this date.

Benzol

		Sept. 29	Sept. 22
Pure Water White, Tanks	gal.	24-25	24-25
90% Tanks	gal.	-23	-23

Above are industrial grades of benzol; motor grades run 2c under to 2c over gasoline tank wagon prices at point of delivery.

Refiners' Supplies

Soda Ash light 58% bags	cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. Drums	cwt.	-1.70	-1.70
Sal Soda wks	cwt.	1.10-1.25	1.10-1.25
Caustic Soda 76% solid	cwt.	-3.10	-3.10
Chloride of Lime	cwt.		
Works		1.90-2.10	1.90-2.10
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point	per ton	9.00-10.00	9.00-10.00

Compounders' Supplies (Open Market)

Vegetable Oils—

Linseed carloads Spot	gal.	-1.00	-1.00
October		- .95	- .94
November-April		- .90	- .92
Tanks, spot		- .96	- .96
Less carload Spot	gal.	-1.03	-1.03
Less than 5 Bbls. Spot		-1.05	-1.05
Boiled, tank Spot	gal.	- .98	- .98
Boiled, carloads Spot	gal.	-1.04	-1.04
*Soya Bean Spot, Tanks	lb.	- .11¼	- .11

Animal Oils—

English Degras	lb.	-.04¾	-.05
Domestic Degras, bbls. carloads	lb.	-.04¼	.04¼-.05
*Horse	lb.	-.09	-.09

Oleic Acid—

Dist	lb.	-.09½	-.09½
Saponified	lb.	-.09½	-.09½

Lard Oils—

Prime Winter Strained	1 to 1¾ ffa.	.17⅜	.17⅜
Extra Winter Strained	2 to 4¾ ffa.	.15¾	.15¾
Extra	4 to 5 ffa.	.14¾	.14¾
Extra No. 1	7 to 10 ffa.	.12¾	.12¾
No. 1	15 to 18 ffa.	.12¼	.12¼
No. 2	22 to 23 ffa.	.11¾	.11¾
Prime Edible Tallow under 1¾ ffa. 40/45c.t.N.Y.	lb.	-.10	-.10¼
Tallow acidless	lb.	-.11½	-.11½
Lard Stearine	lb.	-.17	-.17
Oleo Stearine	lb.	-.11	-.12¾

Neatsfoot Oil—

Pure	bbls.-lb.	.15	.15
Extra	do lb.	.12¼	.12¼
No. 1	do lb.	.11¾	.11¾
Cold pressed	lb.	.19½	.19½

Fish Oils—

Menhaden Oil Light pressed	gal.	-.65	-.65
White	gal.	-.70	-.70
Yellow bleached	gal.	-.68	-.68
*Herring tank cars coast	gal.	-.40	-.40
Whale, extra winter bleached	gal.	-.80	-.80
Seal	gal.	Nominal	

Naval Stores—

Turpentine, N.Y.	gal.	.87	.89
Turpentine†	gal.	.80¼	.82
Rosin B. N. Y.	Bbl.	6.30	6.10
Rosin F. N. Y.	Bbl.	6 30	6.35
Rosin B†	Bbl.	5.12½	5.10
Rosin F†	Bbl.	5.12½	5.15
Rosin Oil 1st run	gal.	.40	.40
Rosin Oil 2nd run	gal.	.46	.46

Pine Tar—

Kiln Burnt	Bbl.	10.50	10.50
Retort	Bbl.	10.50	10.50

†Savannah, Ga. market.
*Nominal

Benzol Prices Buoyant; Chemicals Steady

By Special Correspondent

NEW YORK, Sept. 29.—Following is a review of the markets for compounding and refining supplies.

Animal Oils

Demand more active, but orders small. Stearine declined to 11½ cents for oleo. Export demand for neatsfoot oil better. Lard oil steady but quiet. More interest in degras. Sellers of tallow oil report fair business. Red oil quiet. Movement routine.

Linseed Oil

Futures down. Spot unchanged. Demand spasmodic. Buyers inclined to hold off. More competition among crushers. November April offered freely at 90 cents. Shading probable on firm bid. Stocks in excess of demand. Boiled oil dull.

Fish Oils

Flat. Business hand-to-mouth. Crude menhaden easier at 50 cents, tank cars, works. Light pressed less active. Yellow bleached slightly easier. Cod oil dull. Few inquiries. Buyers bearish. Whale oil marking time.

Benzol

Strong. Prices buoyant. Demand still heavy. Little or no surplus. Production light. Few offerings noted.

Caustic Soda

Contract business picking up. Better inquiry for spot but demand largely hand-to-mouth. Prices unchanged. Export buyers more interested.

Soda Ash

Steady. Makers optimistic. Stocks moderate. Good contract movement. Better export demand. Buyers more inclined to anticipate.

Sulfuric Acid

Steady movement, at unchanged prices. Stocks moderate. Buyers more inclined to purchase ahead.

Naval Stores

Turpentine easier. Buyers holding off for lower prices. More demand for rosins. Prices slightly higher. Rosin oil moving in larger way. Pitch dull. Tar quiet.

Bleaching Powder

Buying more spirited. Prices steady. No change looked for in immediate future. Stocks balance demand.

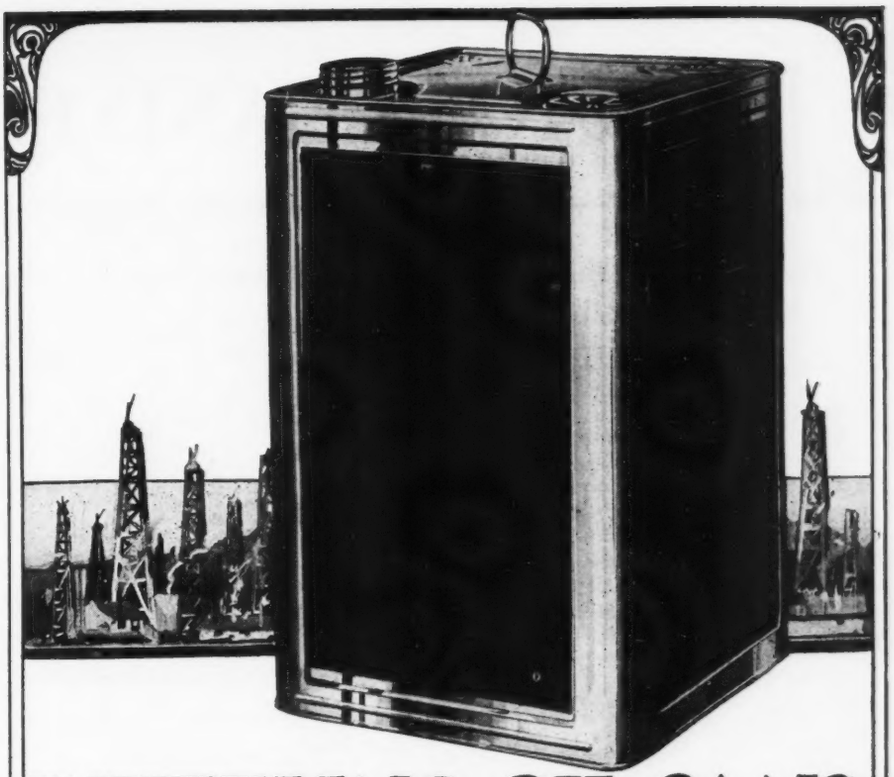
Financial Notes

Skelly Oil Co.—$6,850,000 additional capital stock admitted to New York Stock Exchange.

Tidal Osage Oil Co.—Surplus of $250,979 after all charges including depletion reported for first half of 1924. Company had deficit of $89,329 in first half of 1923.

Mexican Seaboard Oil Co.—Voting trust certificates stricken from New York Stock Exchange list.

General Petroleum Corp. — Harold Barneson elected director to succeed Edward Cebrain.



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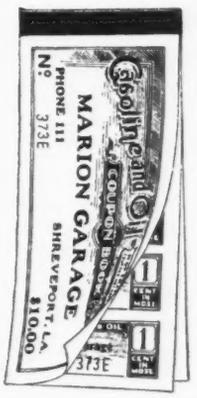

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OIL STOCKS AND FINANCES

Pierce Oil In Better Financial Shape

NEW YORK, Sept. 27.—Improvement is shown in the affairs of the Pierce Oil Corp., since it became a holding company and the actual assets and liabilities were taken over by the Pierce Petroleum Corp., organized last spring to operate the Pierce properties. In the first seven months of this year the Pierce companies and their subsidiaries report net profit of $233,227 after interest and depreciation but before federal taxes. A consolidated income account for the seven months follows:

Gross profit	$4,428,603
Expenses	3,490,380
Interest, etc.	336,450
Depreciation	368,546
Net profit	$233,227

A letter to stockholders from Chairman W. H. Coverdale summarizes what the new management has accomplished thus:

"The International & Great Northern judgment has been paid and discharged; sale of accounts receivable ceased on Aug. 22 and our contingent liability on this account has been reduced from $905,000 on July 31 to $200,173 on Sept. 16; all outstanding acceptance loans have been met at maturity; all miscellaneous notes, overdue taxes and overdue accounts have been paid; outstanding trade acceptances covering purchases of crude oil, kerosene and merchandise have been reduced from $554,524 as of July 31 to $260,756 on Sept. 16; current purchases are largely for cash and discounts are being taken; all expenses of reorganization have been paid; debenture bonds in amount of $70,000 have been purchased in anticipation of December sinking fund requirements, and current interest has been reduced by nearly $20,000 a month or at the rate of $240,000 per annum."

He also said the Pierce credit had been re-established in the trade and that the Pierce Petroleum Corp. has $1,716,000 cash in New York banks. The petroleum company is building an addition to its refinery at Sand Springs, Okla.

Cleveland Stock Market

September 26

	Par	Bid	Asked	1923 High	1923 Low
Canfield Oil Co.	$100	135	...		
do pfd	100	92	...	x100	95
National Refining	25	34¼	35	39	33¾
do pfd	100	...	...	x130	116
Paragon Refining	25	6¼	5½	6	5¼
do pfd	100	...	...	...	40
Fred G. Clark Co.	10	3¼	3	4	2

x Ex. Dividend

Consolidated balance sheet as of July 31, follows:

Assets

Cash	$3,822,402
Accts. notes receivable	1,358,393
Inventories	6,208,074
Deferred charges	84,149
Reorganization expenses	173,468
Capital assets exc. of oil lands	14,248,302
Total	$25,894,788

Liabilities

Accounts payable	$1,541,205
Trade acceptances	554,524
Notes payable	18,500
Special reserves for claims in litigation or taxes in previous years	2,383,951
Funded debt	1,500,000
Capital and surplus*	19,896,608
Total	$25,894,788

*Represented by 2,500,000 shares of stock, no par value

Cosden & Co. Earnings Slightly Higher

NEW YORK, Sept. 27.—Cosden & Co. and subsidiaries in first half of 1924 report earnings of $5,233,172 after expenses and interest, but before depreciation, depletion and federal taxes as against $5,208,489 in first half of 1923. Consolidated income accounts for the two periods follow:

	1924	1923
Total income	$17,775,048	$18,273,059
Expenses, int. etc.	12,541,876	13,064,570
Net income	$5,233,172	$5,208,489
Preferred dividends	240,048	244,903
Common dividends	.....	2,461,987
Surplus	$4,993,124	$2,501,599

Consolidated balance sheets as of June 30, 1924, and Dec. 31, 1923, compare:

	1924	1923
Property	$83,749,862	$76,587,966
Investments	1,885,475	789,568
Accts. & bills rec.	3,762,429	3,603,481
Inventories	10,301,733	9,773,328
Advance payment for crude oil	50,390	.....
Insurance & other prepaid expenses	38,443	.....
Deferred charges.	293,187	845,740
Cash assets	655,794	1,074,092
Total	$100,788,129	$92,121,622
Liabilities		
Prefererd stock	$6,856,210	$6,856,870
Common stock	40,820,370	40,820,370
Minor. stocks of subs.	82,168	82,229
Lease purch. oblig.	3,215,809	561,726
Res. for depr., etc.	17,854,644	18,296,770
Unreal. surp. arising from apprec.	7,567,991	.....
Surplus fr. opers.	11,549,401	14,040,208
Bills payable	9,014,290	9,166,303
Acct's payable	3,083,235	2,015,269
Acc'd. int. tax's, etc.	320,794	281,877
Items in susp. net	509,053	.....
Total	$100,788,129	$92,121,622

NEW YORK, Sept. 26.—Seaboard Terminals Corp. and Seaboard Midland Petroleum Corp. have no connection with the Interstate Gasoline Co. which was thrown into a receivership Sept. 15, according to R. MacCorquordale, assistant treasurer. In articles in daily newspapers references were made to the Seaboard Motor Fuel Corp., a subsidiary of the Interstate, several times as "Seaboard."

Mutual Oil Earns 10% First Half Year

DENVER, Sept. 27.—Mutual Oil Co. and affiliated companies including the Continental Oil Co. in the first half of 1924 earned $3,076,096 after depreciation and depletion but before federal taxes, equivalent to 50 cents per share or 10 per cent on the $30,208,590 outstanding capital stocks. Consolidated income account for the six months follows:

Total after expenses	$5,855,195
Depreciation, depletion	2,666,705
Share of minority stockholders	112,394
Net earnings before federal taxes	$3,076,096

Consolidated balance sheet as of June 30 shows:

Assets

Cash	$3,305,476
U.S., Railway, municipal bonds	2,185,458
Notes receivable	477,036
Accounts receivable	5,974,902
Merchandise, materials	9,094,476
Investments	2,671,101
Other assets	345,359
Fixed assets less reserve, depletion, depreciation and revaluation	46,837,933
Deferred assets	211,756
Total	$71,103,495

Liabilities

Notes and accounts payable	$6,010,564
Funded liabilities	502,180
Reserves	1,028,055
Minority interest in affiliated companies	3,000,185
Capital stock	30,208,590
Surplus	*30,353,921
Total	$71,103,495

* Surplus account has been adjusted from $38,876,586 to $30,353,921 by a charge of $8,522,665 for revaluation of leases and other items on the books of affiliated companies.

Approve General Asphalt Bonds

PHILADELPHIA, Sept. 27.—Stockholders of the General Asphalt Co. have approved the proposed issue of $5,000,000 of 6 per cent 15-year convertible bonds which are to be offered by bankers at 97½. Stockholders have also approved an increase in the common stock by $5,000,000 par value to care for the conversion feature of the bonds. Stockholders have been alloted 18½ per cent of the bonds.

Oil Dividends

	Amount	Payable	Stock of Record
Cities Service m.	½%*	Nov. 1	Oct. 15
do m	1¼%**	Nov. 1	Oct. 15
do pfd. m	½%	Nov. 1	Oct. 15
do pref. B m.	½%	Nov. 1	Oct. 15
Indiana P. L. q.	$1	Nov. 15	Oct. 17
Magnolia q.	$1	Oct. 5	Sept. 25
Mexican Pet. q.	$3	Oct. 20	Sept. 30
do pfd. q.	$2	Oct. 20	Sept. 30
Nat. Fuel Gas q.	$1.50	Oct. 15	Sept. 30
New Eng. Fuel q.	5%	Oct. 1	Sept. 17
Ohio Fuel Sup. q.	2½%	Oct. 15	Sept. 30
Okla. Nat. Gas q.	.50c	Oct. 20	Sept. 26
Pan-American Pet. q	$1	Oct. 20	Sept. 30
Prairie O. & G. q.	$2	Oct. 31	Sept. 30
Prairie P. L. q.	$2	Oct. 31	Sept. 30
Salt Creek Cons q.	15c	Oct. 1	Sept. 20
White Eagle q.	.50c	Oct. 20	Sept. 30

*Cash scrip. **Stock scrip.

Transactions In Oil Shares on New York Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Sept. 27 Sales	First	High	Low	Last	Ch'ge
.....	.....	43	25	(sh) 200,000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
29½	24⅞	34⅝	27⅛	$ 56,000,000	$25	Associated Oil	37½cQ	July 25, 24	1,100	28½	29	28⅜	28¾	+ ¼
160	98¾	140½	78½	50,000,000	100	Atlantic Refining	.....	June 16, 24	3,500	87½	89¾	87½	88	0
120	115	118	109¼	20,000,000	100	do pfd	$1¾Q	Aug. 1, 24	400	112⅞	112⅞	112	112	— ¼
35	9⅞	21⅝	14	14,000,000	25	Barnsdall Corp. A	.....	Apr. 30, 21	5,200	19	19	18½	18⅝	— ⅛
22	6	16¼	10	3,713,275	25	do B	.....	Apr. 30, 21	200	13½	13½	13⅜	13½	+ ¼
9⅛	1¼	5	1⅜	(sh) 150,000	N.P.	Caddo Central O. & R	.....	.....	400	1⅜	1½	1⅜	1½	+ ⅛
29⅛	17⅛	29¼	19½	$ 17,377,000	$25	California Petroleum	43¾cQ	Sept. 2, 24	9,000	21⅞	22⅜	21½	22	+ ¼
110½	90½	107	92½	11,955,100	100	do pfd	$1¾Q	Oct. 1, 24	100	96¼	96¼	96¼	96¼	—1⅜
62¼	22¾	40¼	23⅛	(sh) 1,357,800	N.P.	Cosden & Co	.....	Aug. 1, 23	38,500	26½	26⅝	23½	23⅝	—2⅛
90⅜	83¼	95	83½	$ 6,998,000	$100	do pfd	$1¾Q	Sept. 1, 24	400	85	85	84	84	—1⅜
54	23	47¼	31¾	19,830,000	100	General Asphalt Co	.....	.....	1,900	41¾	42	41	42 .	+1
83	60	84	71½	7,416,000	100	do pfd	$1½Q	Sept. 2, 24	600	83½	84	83½	84	+ ½
.....	.....	45	38⅜	28,402,950	25	General Petroleum	50cQ	Sept. 15, 24	10,200	40¼	41¼	40⅜	41	+ ⅜
78	40¾	82½	61	25,000,000	100	Houston Oil Co	.....	.....	6,000	72	74	72	72½	+ ½
11¼	3⅜	9¼	6⅜	(sh) 450,000	N.P.	Independent Oil & Gas	25cQ	Sept. 30, 24	2,700	6⅞	6⅞	5¾	6⅛	— ⅜
19	1	2⅞	¼	$ 5,000,000	$25	Indiahoma Refining Co	.....	July 1, 21	1,600	¼	⅜	¼	¼	0
8½	3½	7½	3¾	7,830,450	10	Indian Refining Co	.....	Dec. 15, 20	800	5¾	5⅞	5¼	5⅜	— ⅜
49½	49½	74	60	2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
19¼	7⅛	16⅞	10½	1,094,744	N.P.	Invincible Oil Corp	.....	.....	7,100	12¾	13⅝	12¾	13	0
3½	¼	1	¼	$ 1,755,460	$10	Kansas & Gulf Corp	.....	.....	.....	.....	.....	.....	.....	.....
28⅜	16	37½	25⅜	(sh) 262,250	N.P.	Maracaibo Oil	.....	.....	2,000	28	29	28	28	0
59⅝	17⅛	42	29	(sh) 1,549,190	N.P.	Marland Oil Co	.....	July 1, 23	46,600	34½	35⅜	34¼	34¾	+ ¾
293	182	.....	.....	$ 45,942,800	$100	Mexican Petroleum Co	$3Q	July 21, 24	.....	.....	.....	.....	.....	.....
105¼	100¼	.....	.....	12,000,000	100	do pfd	$2Q	July 21, 24	.....	.....	.....	.....	.....	.....
23¾	5¾	25¾	14½	(sh) 444,939	N.P.	Mexican Seaboard Oil	50cQ	Aug. 15, 24	16,500	24⅛	24½	23¼	23¾	— ¾
23¼	6	22¾	12⅞	(sh) 358,900	N.P.	do V. T. C	50cQ	Aug. 15, 24	.....	.....	.....	.....	.....	.....
12¼	3½	6⅞	1	$ 29,799,450	$10	Middle States Oil Corp	.....	July 1, 23	7,800	1⅜	1⅜	1¼	1¼	— ⅛
67	31	39¾	31⅛	$ 39,626,000	25	Ohio Fuel Supply Co	62½cQ	July 15, 24	700	36¾	36¾	35⅞	36½	— ½
52⅛	31¼	58¾	45	(sh) 3,500,000	N.P.	Pacific Oil Co	$1S.A.	July 21, 24	20,600	47½	49	46⅞	48	+ ½
93½	53	61¼	42⅛	$ 48,292,450	$50	Pan American P. & T	$1Q	July 21, 24	3,300	53⅛	53⅞	52½	52⅝	—1
86	50⅛	59½	41¼	81,935,350	50	do Class B	$1Q	July 21, 24	24,500	52⅞	53¼	52¼	52⅝	— ¼
6¼	1¼	3½	1⅝	(sh) 198,770	N.P.	Panhandle P. & R	.....	.....	200	1¾	2	1¾	2	+ ⅜
68	27½	40¼	29¾	$ 3,855,500	$100	do pfd	.....	July 2, 23	300	29¾	30	†29¾	30	+1
69⅝	19¾	42¾	31⅜	(sh) 1,479,702	N.P.	Phillips Petroleum	50cQ	Oct. 2, 24	31,800	32¼	33	31⅝	32	— ⅜
6	1⅜	4½	1½	$ 29,622,925	$25	Pierce Oil Corp	.....	.....	6,300	1⅝	1⅞	1⅝	1¾	+ ⅛
44½	16	39¾	20	15,000,000	100	do pfd	.....	Feb. 1, 22	1,900	25½	27½	25½	27¾	+1¾
58⅛	17	43½	22¾	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	5,900	28	28⅝	27	27	—1⅛
49½	36	47⅞	22	2,845,350	50	do pfd	87½cQ	May 5, 24	300	44	45	44	45	— ⅛
32	16¼	26⅜	20	71,816,575	25	Pure Oil Co	37½cQ	Sept. 1, 24	4,800	23⅛	23¼	22⅞	22⅞	— ⅛
100	82½	98¾	92	13,000,000	100	do 8% pfd	$2Q	Oct. 1, 24	100	97½	97½	97½	97½	+ ½
55⅛	40½	59½	40⅜	(sh) 725,959	13.40	Royal Dutch, N.Y. shares	$3.18½	Aug. 12, 24	9,000	40⅝	42¼	†40⅜	41⅝	+ ⅜
41¼	29⅛	41½	33	(sh) 153,293	£2	Shell Transport & T	$1.07½	July 23, 24	100	34½	34½	34½	34½	+ ¾
19¼	12⅜	20⅛	15¼	(sh) 10,000,000	N.P.	Shell Union Oil Corp	25cQ	Sept. 30, 24	10,500	16¼	16¾	16¼	16⅜	0
95	89½	96¾	91½	$ 20,000,000	$100	do pfd	$1½Q	Aug. 15, 24	100	95½	95½	95½	95½	0
16	6½	15	10⅜	7,204,710	10	Simms Petroleum Co	.....	.....	5,900	14¼	14¾	14¼	14½	+ ¼
39⅛	16	27⅝	15	(sh) 4,480,957	N.P.	Sinclair Consolidated	.....	May 31, 24	33,600	17¼	17¼	16¼	16⅜	— ½
99⅛	80¼	88½	77	$ 18,914,900	$100	do pfd	$2Q	Aug. 15, 24	400	81	82	81	81⅞	— ⅛
35	12⅛	29	17⅛	20,579,090	25	Skelly Oil Co	.....	.....	4,300	18¼	18¼	17⅞	18	— ½
64½	47⅛	68½	55½	234,107,825	25	S. O. California	50cQ	Sept. 15, 24	5,700	57	57¾	56½	57¾	+ ¾
44⅛	30⅞	42¼	33	505,201,775	25	S. O. New Jersey	25cQ	Sept. 15, 24	15,100	35⅜	35¾	34⅝	35½	+ ¼
118¼	114¾	119⅛	115⅞	199,972,900	100	do pfd	$1¾Q	Sept. 15, 24	900	118	118	117¼	117⅜	0
6¼	2	8⅛	2⅜	(sh) 1,087,228	N.P.	Superior Oil Corp	.....	Dec. 20, 20	8,100	4¾	5⅛	4¾	4¾	— ¼
52⅞	34⅝	45⅜	37¾	$164,450,000	$25	The Texas Co	75cQ	Sept. 30, 24	13,500	40	40⅝	39¾	40	0
24¼	5½	15¼	8½	8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	4,800	8⅝	9	8½	8⅞	+ ¼
144	94	151	118¼	50,004,000	100	Tide Water Oil Co	$1Q	Sept. 30, 24	100	120	120	120	120	—2
14½	1¾	6¼	3¼	(sh) 2,957,529	N.P.	Transcontinental Oil Co	.....	.....	19,500	4¾	4½	4⅛	4¼	— ¼
99¾	81	126	94	$ 18,020,000	$100	Union Tank Car Co	$1¼W	Sept. 2, 24	3,500	126	131	124	130	+1
114	100	116¾	106¼	12,000,000	100	do pfd	$1¾Q	Sept. 2, 24	200	114	114	113½	113½	— ½
30⅜	20	29⅜	23⅛	(sh) 460,000	N.P.	White Eagle Oil & Ref	50cQ	July 20, 24	2,300	24	24½	23¾	24¼	— ¼

*New High †New Low xEx-Dividend Total Sales 400,900

Standard Oil Stock Traded In New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Sept. 26 Sales	First	High	Low	Last	Ch'ge
19¾	13½	18	14⅜	£3,000,000	£1	Anglo American	55cS.A.	May 15, 24	2,700	14¾	15⅛	14¾	15	+ ⅜
7⅞	2½	4⅞	2¾	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	400	3	3	3	3	+ ⅛
150	108	265	155	$ 1,000,000	$100	Borne-Scrymser	$4S.A.	Apr. 15, 24	30	213	213	210	213	0
94½	69	85½	51	10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 24	720	56	63	56	62	+7
.....	.....	52	48¼	3,000,000	25	Chesebrough Mfg. Co	62½cQ	Sept. 30, 24	500	49	49	49	49	+ ½
118	110	115	112½	1,000,000	100	do pfd	$1¾Q	Sept. 30, 24	60	112	113	†112½	112½	+ ½
50	32¼	54⅞	39¾	10,000,000	25	Continental Oil	50cQ	Sept. 15, 24	.....	.....	.....	.....	.....	.....
47½	15	20	11½	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
168	85	149	110½	3,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15, 24	20	137	137	137	137	—3
117	87	105	89	5,000,000	100	Eureka Pipe Line	$2Q	Aug. 1, 24	40	92	92½	90½	90½	— ½
78	55	69¾	52	16,000,000	100	Galena Signal Oil	$1Q	Sept. 30, 24	220	53	53	53	53	+ ⅜
105	104	103¼	100½	4,000,000	100	do new pfd	$2Q	Sept. 30, 24	.....	.....	.....	.....	.....	.....
116	108	116	103½	2,000,000	100	do old pfd	$2Q	Sept. 30, 24	.....	.....	.....	.....	.....	.....
41¼	28	43¾	30	43,750,000	25	Humble Oil & Ref	30cQ	Sept. 1, 24	800	35⅝	35⅞	35⅝	35⅝	— ¼
171	115	161	120	20,000,000	100	Illinois Pipe Line	$6 S.A.	June 30, 24	30	125	125½	124½	125½	+1½
123	92	119	98½	39,222,750	25	Imperial Oil coupons	75cQ	Sept. 2, 24	1,675	104½	104¾	102½	102½	—2
103	78	100	66	5,000,000	50	Indiana Pipe Line	$2Q	Aug. 15, 24	610	73	75	70½	72	—1
24¾	13¼	22¼	16¾	(sh) 7,118,138	N.P.	International Petroleum	25cQ	June 30, 24	19,800	19¾	20¼	19½	19½	— ¼
168	123	162	122	$188,000,000	100	Magnolia Petroleum	$1Q	Oct. 5, 24	160	130	131½	130	130	— ¼
29	19½	25⅞	20⅝	6,362,500	12½	National Transit	25cQ	Sept. 15, 24	600	21½	21¾	21¼	21¼	0
138	70	97	54½	5,000,000	100	New York Transit	50cQ	July 15, 24	40	58½	61	58½	61	0
109½	90	107½	78	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 24	60	79½	79½	78	78	+1
85¼	48¾	79½	55	60,000,000	25	Ohio Oil Co	50cQ	Sept. 30, 24	2,600	60⅜	61½	58⅞	60½	— ¼
45¼	10⅝	43	27	10,000,000	25	Penn.-Mex. Fuel	.....	.....	.....	.....	.....	.....	.....	.....
700	152	269	194½	60,000,000	100	Prairie Oil & Gas	$2Q	July 31, 24	1,540	207	210	206	207	0
335	93	111	100	81,000,000	100	Prairie Pipe Line	$2Q	July 31, 24	1,310	105½	105½	102¾	102¾	—2¼
212½	161	230	175	4,000,000	100	Solar Refining Co	$5 S.A.	June 20, 24	110	180	181½	180	180½	—1
116	87	100	87	10,000,000	100	Southern Pipe Line Co	$2Q	Sept. 2, 24	80	90	90	†87	87	—3
195	100	171	117	20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	120	134	135½	133	134	0
88½	66½	89	74	3,500,000	100	Southwest Pa. Pipe Lines	$2Q	Oct. 1, 24	30	74	76	74	76	+2
69⅞	49⅝	68¾	54½	221,706,668	25	S. O. Indiana	62½cQ	Sept. 15, 24	21,000	56½	56¾	56	56¼	— ¼
57½	36½	50¼	32½	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,200	34	34¼	34	34	+ ¼
133	80	120	101	16,784,047	25	S. O. Kentucky	$1Q	Oct. 1, 24	6,300	113⅝	118¾	112½	116¾	+2¾
285	186	256½	198	3,000,000	100	S. O. Nebraska	$5S. A.	June 30, 24	30	240	244	240	244	+1
48⅝	35⅜	55¾	37¾	225,324,650	25	S. O. New York	35cQ	Sept. 15, 24	5,000	39¼	39⅞	39	39½	— ⅛
320	270	336	275	14,000,000	100	S. O. Ohio	$2½Q	Oct. 1, 24	10	294	294	294	294	—3½
118	116	125½	116	7,000,000	100	do pfd	$1¾Q	Sept. 2, 24	130	116	117	†116	116¼	0
839	21	81	34	1,722,931	100	Swan & Finch	.....	Nov. 1, 19	60	42	44½	42	44½	+2½
58⅜	35½	69¼	56½	61,523,075	25	Vacuum Oil Co	50cQ	Sept. 20, 24	29,000	67⅞	72¼	67¼	70½	+2⅜
28	19	30	25½	100,000	10	Washington Oil Co	.....	Jan. 31, 22	30	29½	29½	29½	29½	0

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New York Curb Bonds

Week Ended Sept. 26

	High	Low	Last	Ch'ge
Anglo-Amer 7½s	102⅜	102	102	0
Cities Serv 7s B	130	130	130	+6
do 7s C	98½	97¾	98½	+ ⅝
do 7s D	96¾	96	96¾	+ ½
Galena S O 7s	105⅝	105½	105⅝	— ⅛
Gen Pet 6s	100⅝	100⅝	100⅝	0
Gulf Oil 5s	98	97⅞	98	+ ⅛
Phillips Pet 7½s w w	104	104	104	0
Pure Oil 6½s	95¾	95½	95⅝	0
Skelly Oil 6½s w i	100⅝	100½	100⅝	— ⅛
S O New York 7s '25	101¼	100⅞	100⅞	— ⅜
do 7s '26	106⅜	103⅞	106⅜	+2⅞
do 7s '27	105½	105⅛	105½	+ ¼
do 7s '28	105⅝	105¼	105½	0
do 7s '29	106⅜	106¼	106¼	0
do 7s '31	106½	106	106	— ½
do 6½s	108	107½	107¾	+ ¼
Sun Oil 6s	101⅜	101	101	— ¾
Tidal Osage 7s	104	104	104	— ¼
Union Oil Cal 6s '26	102	102	102	+ ½
Vacuum Oil 7s	106¾	106½	106¾	0
Valvoline 7s	103⅜	102¼	103⅜	— ⅜

New York Bonds

Week Ended Sept. 27

	High	Low	Last	Ch'ge
Atlantic Refg. deb 5s	98⅝	98	98	— ¾
Barnsdall Corp 8s	103	102	102	—1
Calif Pet s f 6½s	100⅝	100	100⅛	+ ⅛
Empire G & F 7½s	96½	95¼	96⅜	+ ⅜
Humble O & R 5½s	100⅛	99⅞	100	0
Marland 8s Ser A	106	105⅝	106	+ ⅛
do 7½s ser B	103⅝	103⅜	103⅜	— ⅛
Mex Pet of Del cvt 8s	106	105¾	105¾	— ¼
Pan-Amer P & T 7s	104¾	104¼	104½	— ½
Pierce Oil deb 8s	100½	100	100½	+1
Prod & Ref 8s	110	109¾	109¾	— ⅛
Sinclair Con col 7s	91⅛	88⅜	90	— ⅜
do 6½s	85¼	84¼	84¼	—1
Sinclair Crude 6s	101¼	100	101¼	+1
do 5½s	100½	100⅜	100⅜	0
Sinclair Pipe L s f 5s	83¾	83¼	84	
Tidewater Oil 6½s	103¾	103½	103½	— ¼
Union Oil of Calif 6s	102¼	102¼	102¼	+ ¼
Union Tank Car 7s	105	104¼	105	+ ¾

New York Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Sept. 26 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4¼	10	Ark. Nat. Gas	300	4⅝	4⅝	4⅜	4⅜	— ¼
1⅜	.65	1⅛	.75	1	Boston & Wyo	300	.85	.87	.85	.87	+ 2
7⅝	3⅛	6⅜	3⅛	25c	Carib. Synd	1,100	3¼	3⅜	3⅛	3⅜	— ¼
195	128	155	132	100	Cities Service	290	142	143½	142	143	+1
70	64¼	76⅜	67¾	100	do pfd	400	76⅜	76¼	76¼	76¼	+ ⅛
6⅜	5⅞	7⅛	6⅜	10	do pfd. B	100	7⅛	7⅛	7⅛	7⅛	0
19½	12⅝	16	13¼	10	do Bkrs. Sh	700	14¼	14⅜	14¼	14⅜	+ ⅛
7⅝	1½	9¼	2⅛	N.P.	Creole Synd	7,600	8¼	8¼	8	8⅛	— ¼
18½	5	8	8	N.P.	Derby O. & R	.....	.....	.....	.....	.....	.....
49½	22	34¼	17½	N.P.	do pfd	.....	.....	.....	.....	.....	.....
1	.10	.60	.12	5	Federal Oil	6,000	.40	.40	.34	.38	—.2
2⅛	.23	.60	.23	10	Glenrock Oil	.....	.....	.....	.....	.....	.....
68¼	45¾	65	56¾	25	Gulf Oil Corp	8,800	59¾	61½	59⅜	59⅞	+ ⅛
9⅛	1	2⅝	.37	N.P.	Gulf State O.& R	.....	.....	.....	.....	.....	.....
4	1½	2⅜	1¼	N.P.	Kirby Petroleum	700	1⅝	1⅝	1⅝	1⅝	0
.....	.....	5¾	2⅞	N.P.	Lago Petroleum	31,000	4⅛	4⅞	4	4⅞	— ⅛
5⅛	1½	4⅞	2	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
20¼	12⅞	19⅞	16	10	Mountain Prod	17,400	19	*19⅞	18¾	19¾	+ ¾
15¼	12¾	.....	.....	5	Mutual Oil Co	.....	.....	.....	.....	.....	.....
15½	8⅛	14	9¼	5	do cfts	20,400	10⅝	11	10⅝	10⅞	+ ⅛
6⅛	3½	6¼	4⅛	5	New Bradford	1,700	4⅜	4⅝	4⅜	4⅝	+ ⅜
52	15⅛	44	20	10	New England Fuel	400	22	22	20	22	—2
21⅜	5	14	8⅝	25	New York Oil	800	9	9⅝	9	9⅝	+ ⅝
1	.45	.80	.50	10	Omar O. & G	.....	.....	.....	.....	.....	.....
13	¾	3½	1	N.P.	Peer Oil Corp	700	1⅜	1⅜	1	1	— ⅛
14¾	9¼	17¾	12¼	10	Pennok Oil	15,400	16¼	*17¾	16¼	17½	+1½
.....	.....	57¾	5¾	25	Red Bank Oil	13,900	43¾	44¾	37¾	40	—3½
6⅞	2	5¾	3½	N.P.	Ryan Consolidated	.....	.....	.....	.....	.....	.....
14	6¼	10½	7⅛	10	Salt Creek Cons	1,100	7⅛	7½	7⅛	7⅛	0
25¼	15¼	26⅜	19⅛	10	Salt Creek Prod	10,700	24⅞	26⅜	24¾	26¼	—1⅝
4⅞	.75	2½	.80	5	Sapulpa Refining	.....	.....	.....	.....	.....	.....
4	.65	1⅝	.30	5	Seaboard O. & G	.....	.....	.....	.....	.....	.....
13½	6	16	8	10	Tidal Osage	.....	.....	.....	.....	.....	.....
.....	.....	139	132	100	Union of California	125	132	132½	132	132½	+ ⅛
10⅞	4	8⅜	4⅝	5	Wilcox O. & G	2,800	4¼	4⅞	4¼	4¾	— ⅛
.....	.....	13⅛	7	N.P.	Woodley Petroleum	3,700	10¾	11⅛	10	10	— ⅝

Pittsburgh Stock Exchange

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Sept. 26 Sales	First	High	Low	Last	Ch'ge
10	4¼	7	4½	10	Ark. Nat. Gas	1,380	4¾	4¾	4½	4⅝	— ⅛
33⅓	33	40½	35¾	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
.....	.....	30	30	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
27	22¾	30	26¾	25	Lone Star Gas	865	29	29¼	29	29¼	+ ¼
58	51	60	51	50	Manuf. L. & H	1,430	58½	59	58	59	+ ½
.....	.....	29½	28¼	25	OhioFuelCorp. (W.I.)	7,232	28⅝	29½	28½	29	+ ⅛
19	11	16⅜	11⅛	1	Ohio Fuel Oil	50	13	13	13	13	— ¼
66	30¾	39¼	31¾	25	Ohio Fuel Supply	2,511	37¼	37¼	36½	37	— ¼
24	18¾	27½	22¾	25	Okla. Nat. Gas	370	27½	27½	x27	27	— ½
10½	5¾	9¾	6	5	Pittsburgh O. & G	50	7	7	7	7	0
14	5⅞	10½	7	10	Salt Creek Cons	100	7	7	7	7	— ¼
13½	7	16⅜	9¾	10	Tidal Osage	.....	.....	.....	.....	.....	.....
.....	.....	92	92	100	do pfd	.....	.....	.....	.....	.....	.....
29½	23¾	34¼	27⅜	25	Union Nat. Gas	1,986	34¼	*34¾	33⅞	34	— ¼
.....	.....	.....	.....	...	.....	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1923 High	1923 Low	1924 High	1924 Low	Par Value	Stocks	Transactions Week Ended Sept. 26 Sales	First	High	Low	Last	Ch'ge
.....	.....	2½	2½	N.P.	Arkansas Fuel w.i	.....	.....	.....	.....	.....	.....
1½	.22	.76	.20	5	Colombia Synd	.....	.....	.....	.....	.....	.....
2⅜	.26	.70	.30	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
37	10	9⅜	5⅝	10	Forest Oil	.....	.....	.....	.....	.....	.....
1¼	1	.15	.15	1	Grant Oil	.....	.....	.....	.....	.....	.....
68	46⅜	64¼	57	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
.03	.02	.....	.....	1	Homer Union	.....	.....	.....	.....	.....	.....
24½	16⅜	21	21	N.P.	International Pet	.....	.....	.....	.....	.....	.....
.....	.....	4½	4½	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
8½	4	6	5	10	Marshall Oil	.....	.....	.....	.....	.....	.....
.36	.15	.39	.01	1	Mex. Wyoming	.....	.....	.....	.....	.....	.....
.....	.....	18	18	10	Mountain Prod	.....	.....	.....	.....	.....	.....
.....	.....	30	29½	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
2½	1⅛	2⅞	1½	1	Oklahoma Eastern	450	2	2	1⅞	1⅞	0
2	.60	.77	.45	10	Omar O. & G	.....	.....	.....	.....	.....	.....
22½	7	8	5½	5	States Oil	.....	.....	.....	.....	.....	.....
.....	.....	14	10	10	Tidal-Osage, N. V	.....	.....	.....	.....	.....	.....

*New High †New Low x Ex Dividend